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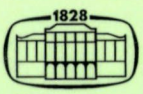

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ACTA LINGUISTICA HUNGARICA

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AKADÉMIAI KIADÓ
BUDAPEST

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GUEST EDITOR'S NOTE

The papers collected in this volume analyze the mental lexicon with particular reference to sentence processing, in an interdisciplinary framework. The authors describe some syntactic, semantic and phonological phenomena that presuppose the existence of interrelated components within the lexicon, which motivate the assumption that there exist some sublexicons within the global lexicon of a speaker. This result is confirmed by experimental findings in neurolinguistics and clinical linguistics.

Analyzing Hungarian ellipsis data from a semantic-syntactic point of view, the papers established that the lexicon is best conceived of as split into at least two main sublexicons: the store of semantic-syntactic feature bundles, and a separate store of sound forms, and proposed a format for representing open-class lexical items whose meanings are connected via certain semantic relations.

The partitioned sets of lexical items are sublexicons on phonological grounds. These sublexicons differ in terms of phonotactic grammaticality. The phonotactic grammaticality of a string of segments is a measure that refers to the extent to which a given string is a potential/actual lexical item. The question of how many degrees of phonotactic grammaticality are to be recognized phonologically is tied up with the problem of psychological reality: how many degrees of phonological grammaticality native speakers are sensitive to; and the possible partitioning of the lexicon into sublexicons on phonological grounds.

The papers have found some empirical evidence concerning relations between the grammar and the components of the lexicon in agrammatic aphasia, in patients with schizophrenia and in children with Williams syndrome, a rare neurogenetic disorder.

The guest editor hopes that this volume will contribute to the Hungarian presence in research on interfaces between the components of mental grammar.

The guest editor would like to thank first of all for the opportunity given to him by Ferenc Kiefer and for the assistance of Valéria Csépe, Zoltán Kiss, Csaba Pléh, Péter Siptár and Péter Szigetvári.

Zoltán Bánréti

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SOUND-FORM NON-INSERTION AND THE DIRECTION OF ELLIPSIS*

HUBA BARTOS

Abstract

The paper investigates cases of coordinate ellipsis in Hungarian, from the perspective of possible differences between forward and backward ellipsis, and argues that all instances of backward ellipsis (BWE), as well as most types of forward ellipsis (FWE), arise by the non-insertion of phonological shapes to the terminal nodes of syntactic phrase markers at the level of morphology, where vocabulary insertion takes place in a standard version of late insertion theories: Distributed Morphology. It is shown, on the one hand, that even in those cases of FWE where considerable lexical differences occur between the ellipsis site and its parallel licensing antecedent, the device of non-insertion is often sufficient for a satisfactory account, thereby limiting the scope of applying other, less easily constrained devices, such as anaphora interpretation, or reconstruction. On the other hand, BWE need not be analysed as the result of a separate operation (PF deletion), either, as non-insertion has the same effects, and may bear the same restrictions.

Introduction

The aim of this paper is, on the one hand, to carry further the analyses of Bartos (2000a), in the domain of VP-type ellipsis phenomena, and on the other, to explore the licensing (interpretational) strategies involved in ellipsis. In the course of the latter, I will argue that certain cases of ellipsis where semantic bridging effects are at play, and which have therefore been primarily analysed in terms of semantic interpretation of syntactic null-forms, can (and, in fact, must) be treated under the general framework of syntactic ellipsis construed as the non-insertion of phonological material for the formal feature matrices of

* This paper is an extended version of Bartos (2000b). I am grateful to Beáta Gyuris and Zoltán Bánréti, for helpful discussions, and to András Komlósy for data judgments. All errors are mine, and I am to be held responsible, alone, for the final classification of data as regards well-formedness. The research was partially supported by a Bolyai János Fellowship.

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the syntactic structure – as conceived in the model of Distributed Morphology (DM) laid out by Halle–Marantz (1993; 1994), and Marantz (1997).

One of the major consequences of our findings is that the split lexicon model of DM gains support, thereby corroborating the view of **the** lexicon as a cover term for a group (or groups) of sublexicons (which, in turn, also consist of sub-sublexicons, or more precisely: lexical networks, see e.g., Trón–Rebrus 2001; Bánréti 2000). In the DM model a "narrow lexicon" of semantic/syntactic features bundles (i.e., morphemes) serves as the input for syntactic computation, the two outputs of which are associated with two other "lexicons": (i) en route to phonology, the syntactically assembled structures must be fleshed out with phonological forms (morphs) corresponding to the abstract, featural morphemes – this involves the repository of such forms, termed the "Vocabulary"; (ii) in the Logical Form as the output representation towards semantic interpretation the structural units must acquire their individual, potentially idiomatic meanings – the "special meanings", to be identified here, are stored in the so-called "Encyclopedia".

1. Forward and backward ellipsis

Of the different types of ellipsis I will exclusively deal with those occurring in coordinate structures. By forward ellipsis (FWE) I mean those cases where the ellipsis site is in a non-initial conjunct, i.e., when the licensing antecedent precedes it. Accordingly, when the ellipsis site is in a non-final conjunct, and the ellipsis site precedes the licensing antecedent overt in a later conjunct, we have a case of backward ellipsis (BWE).

As discussed by Wilder (1997) for certain types of ellipsis (but crucially not for VP-type ellipsis), FWE and BWE display strikingly different properties, the most salient and important of which is the fact that in BWE the elided material must be literally (i.e., phonologically) identical to its parallel antecedent in the later conjunct, while in the case of FWE different sorts and degrees of "sloppiness" (i.e., non-identity) are possible. For example, in Gapping, the elided verb need not be either phonologically or morphosyntactically identical to its antecedent – at least as far as its grammatical features are concerned.

(1) John drinks wine and his kids [~~drink~~] coke.
3sg non-3sg

However, as (2) shows, this sloppiness only holds for φ-features, but not for tense.

(2) *John arrives tomorrow, and his wife [~~arrived~~] yesterday.

In some other cases, the elided material in FWE is distinct from its antecedent in the former conjunct, but in some well-defined way. E.g., in (3), the two instances (antecedent and elision) are argument-structural variants of each other.

(3) (a) Iván szeretne Marival táncolni, de Mari nem szeretne
Ivan would-like Mary-with dance-inf but Mary not would-like
[~~Ivánnal~~ ~~táncolni~~]/*[~~Marival~~ ~~táncolni~~].
Ivan-with dance-inf Mary-with dance-inf
'Ivan would like to dance with Mary, but Mary wouldn't like to [dance with Ivan]/ *[dance with Mary].'

(b) Iván szeretne Marival táncolni, de Mari nem szeretne [~~táncolni~~].
'Ivan would like to dance with Mary, but Mary wouldn't like to [dance].'

In (3a) the identity requirement between the antecedent and the elided material is observed in such a way that the two occurrences of the same verb (*táncolni* 'dance') are argument-swapped variants of each other. Likewise, in (3b) the elided verb is used as a one-place predicate, unlike its two-place antecedent. Such differences are apparently within the limits of "content identity" between antecedent and elided part — for details, see Gyuris 2001.

But even greater differences are tolerated sometimes. For instance, in (4) the two related items are different derivatives of the same root.

(4) ?Péter egykor kiváló operaénekes volt, de ma már nem űzi aktívan
Peter once excellent opera-singer was, but today already not pursues actively
[~~az operaéneklést~~], mert tönkrementek a hangszálai.
the opera-singing, because went-damaged the vocal_cords-poss-pl
'Peter once was an excellent opera singer, but now he doesn't actively do [opera-singing], because his vocal cords have gone bad.'

Nevertheless, even here it is not the case that "anything goes." The category of the items may not vary:

(5) *Péter kiváló operaénekes volt, de ma már nem tud [~~(operát)~~ ~~énekelni~~], mert ...
... ... not can opera-acc sing because
'Peter was an excellent opera singer, but now he can't [sing (opera)], because ...'

The question obviously arises how to account for these cases. What could be a meaningful licensing condition for ellipsis which allows for such disparities between the antecedent and the elided part, but which still rules out "blatant" differences? And: which module of the grammar should be made responsible for this?

2. Ellipsis: deletion, deaccenting, reconstruction, or anaphora?

In the literature, four major conceptions exist as to the true nature of what is perceived as ellipsis, i.e., the "omission", the "absence" of certain elements from a syntactic unit. Perhaps the earliest way to deal with such cases was in terms of deletion (of whole syntactic constituents, or merely of their phonological features): in the generative literature some of the most important proponents of this view have been Sag (1976), Lasnik (1995a; 1995b) and Wilder (1995; 1997). Under these analyses, the elided items are base generated as proper, full-fledged elements in the syntactic structure, but are later subject to some sort of "removal" from there, so that in the end, they will not be present (in some sense) in the output representation to be fed into phonology (i.e., pronunciation). There are minor executional differences as to whether whole branches are cut off of the syntactic tree, or just the pronunciation of the items will be changed to null, or, as in Wilder (1997), Bartos (2000a), the phonological material fails to get inserted into the structure entirely.

A seemingly somewhat similar, though in fact rather different approach to ellipsis is taken by Chomsky–Lasnik (1993) and Tancredi (1992): they view ellipsis (at least VP-ellipsis) as radical deaccenting, i.e., in their analysis total phonological deletion is an alternative option to mere deaccenting.

Another widely held view sees ellipsis as reconstruction, i.e., the copying (or generating) of some lexical material into the place of empty elements – items which have been generated as null forms, and left empty throughout the syntactic derivation, up to the point of the reconstructional operation, at s-structure (Lappin 1996), or at LF (Williams 1977; May 1985; Fiengo–May 1994), or maybe even outside syntax, in the domain of semantics (Tomioka 1997).

Eventually, it has also been proposed that ellipsis (or at least certain cases of ellipsis) belongs to the larger class of anaphora (Williams 1997), and thus should be treated in terms of the general pattern and procedures of anaphora resolution. This approach is akin to the reconstructional one, but also differs from it insofar as the classic "formal identity" requirements to hold between

ellipsis and antecedent are not evoked here in any form: ellipses are null forms which are interpreted as any other anaphoric element — the relevant notion of identity here is thus "referential identity". Dalrymple Shieber Pereira's (1991) semantic treatment also falls in this group: for them, ellipsis resolution is much like pronominal (i.e., anaphora) interpretation.

Obviously, the latter two types of theories are more likely to be capable of handling the "non-identical" type of ellipsis, illustrated in (3) and (4) above, than the deletional approach. On the other hand, an identity-based deletional model is much more constrained, at first blush, not having to make reference to somewhat hazy/fuzzy notions like "anaphoric equivalence" or "interpretive identity".

We will initially adopt Wilder's (1997) generalization that BWE is confined to literal identity to a greater extent, while FWE obeys looser requirements. At the same time, I propose that many instances of FWE can (and, in fact, should) be handled by the very same mechanisms and constraints as BWE, though clearly there exist types where this approach is totally hopeless. In doing so, we adopt the following heuristic idea: since the "deletion under identity" mechanisms (to be made precise below) are needed anyway (for BWE), they should be utilized to the maximum, i.e., to the largest possible domain of FWE, too, whereas the less clear-cut, less easily definable (hence more "dangerous") notions of "reconstruction/interpretation under semantic equivalence/compatibility" should be confined to cases escaping the deletional treatment. In other words, let syntax and/or morphology and/or phonology do as much of ellipsis as they can — in a Chomskyan framework these computational modules apply prior to LF-operations or semantic interpretation. And the remaining cases can be left to some reconstructional/interpretive machinery.

Naturally, for this model to work, we have to assume that all instances of ellipsis are deletional at heart, otherwise we would have to allow empty elements to be base-generated (i.e., inserted directly from the "narrow" lexicon), thereby fixing them for a reconstructional/interpretive treatment beforehand — something we wish to exclude. We want to ensure that pre-LF/semantics mechanisms take care of every case of ellipsis they can, leaving only the remainder to "wander on" to other, later modules of the computational system.

Also, there is some evidence that coordinate FWE cannot be seen as wholesale semantic reconstruction. As attested in (2) above, and demonstrated here in (6) for Hungarian, tense switches are strictly disallowed, even though some elements in the conjuncts (time adverbials) would make it perfectly possible for the semantics to make the necessary alterations between the antecedent and the elided V-form — in fact, no ambiguity could arise in these cases.

(6) (a)*Péter ma énekel, Laci pedig tegnap [~~énekelt~~].
Peter today sings Laci and yesterday sang
'Peter is singing today, and Laci did yesterday.'

(b) Péter tegnap énekelt, Laci pedig ma [~~énekelt~~]/*[~~énekel~~].
Peter yesterday sang Laci and today sang sings
'Peter sang yesterday, and Laci sang/*is singing today.'

As (6b) shows, when the elliptical string is well-formed at all, its only available interpretation is where the tense specifications of the two conjuncts are matching.

Nor is it clear why the lexical difference between the antecedent and the elided form in (4) can be bridged (*operaénekes* 'opera singer' → *operaéneklés* 'opera singing'), while the same fails in (5): *operaénekes* 'opera singer' ↛ *operát énekel* 'sing opera/opera-sing'.[1] Before we may dare to leave such matters to semantics, we would like to know how semantics works, e.g., in such cases – or we should at least be certain that the non-interpretive ellipsis mechanisms are truly insufficient here.

3. BWE as phonological deletion — or morphological non-insertion

Wilder (1997) treats BWE as the deletion of phonological forms of elements in non-final conjuncts under strict (phonological) form-identity. He distinguishes this from the situation in FWE, where the absence of pronunciation for elements in non-initial conjuncts is the result of their phonological shapes not being inserted at Morphological Structure (MS, Halle–Marantz 1993), i.e., they are left without their pronunciations. Also, FWE must be licensed at LF —being subject to much more complicated restrictions than mere form-identity, so Wilder applies a marker feature for these items the "meaning" of which is that items marked with this must not be paired with their phonological features at MS, and must be content-licensed ("reconstructed") at LF. While Wilder's arguments and main ideas are quite convincing, we will not adopt his mechanisms, mainly for the following two reasons: (i) the application of the marker feature is clearly an ad hoc means to achieve the purported distinction; (ii) the distinction between phonological form non-insertion and phonological deletion

[1] The bare N(P) object + V sequences have often been treated in Hungarian as lexical units, despite the overt case marking on N(P), cf. Kiefer (1998) – if this is true, it is even more unclear, why/how this case differs from the one in (4).

is far from obvious, i.e., one cannot make any theory-external or empirical difference between the two. Whether an item fails to get its phonological features, or it gets them, but loses them in the immediately subsequent step does not seem to be a meaningful distinction.

If we discount this latter, dubious, device, then what remains of Wilder's model is the necessity of LF licensing for FWE, and the absence of any such condition for BWE.

I argue in Bartos (2000a) that simple cases of FWE (more precisely: forward VP-ellipsis) in Hungarian arise by not inserting the phonological shapes of items which are licensed for this by the general recoverability condition on ellipsis: if the content of the elided material is recoverable by formal means, ellipsis is applicable. In the particular analyses it is shown that verb roots and non-null (i.e., non-infinitival) tense markers are recoverable only from parallel identical elements in another conjunct, while agreement markers can be recovered more locally, via the agreement relation with the anchor of agreement (subject, object), and infinitival, null tense markers are likewise licensed for ellipsis without reference to a parallel clause, either because infinitives are in fact bare forms, consisting of just the verb root, or because infinitives are confined to contexts which explicitly select for them, i.e., the selectional properties of the non-elided items help recover the infinitival nature of an elided verb unambiguously.

If we compare FWE and BWE cases of the same type of VP-ellipsis (where the elided VPs are minimal, containing just the verb itself, except in (10c)), we find the same general difference as in Wilder (1997): BWE obeys stricter identity requirements between the ellipsis site and the parallel string.[2]

(7) (a) Péter tegnap vásárolt, én pedig holnap fogok [~~vásárolni~~]. FWE
Peter yesterday shopped I and tomorrow will shop
'Peter did the shopping yesterday, and I will [do the shopping] tomorrow.'

(b)?Péter csak holnap fog [~~vásárolni~~], de én már tegnap vásároltam. BWE
Peter only tomorrow will shop but I already yesterday shopped
'Peter will only [do the shopping] tomorrow, but I did the shopping y.day, already.'

(8) (a) Péter tegnap vásárolt, én pedig tegnapelőtt [~~vásároltam~~]. FWE
Peter yesterday shopped I and yesterday-before shopped
'P. did the shopping yesterday, and I did [do the shopping] the day before y.day.'

(b)?Péter tegnap [~~vásárolt~~], én pedig tegnapelőtt vásároltam. BWE
Peter yesterday shopped I and yesterday-before shopped
'Peter [did the shopping] yesterday, and I did the shopping the day before y.day.'

[2] In the glosses, *def* and *indef* mark the definite vs. indefinite object agreement on the verb.

(9) (a) Én tegnap vásároltam, Péter pedig tegnapelőtt [~~vásárolt~~]. FWE
I yesterday shopped Peter and yesterday-before shopped
'I did the shopping yesterday, and P. did [do the shopping] the day before y.day.'

(b)*Én tegnap [~~vásároltam~~], Péter pedig tegnapelőtt vásárolt. BWE
I yesterday shopped Peter and yesterday-before shopped
'I [did the shopping] yesterday, and Peter did the shopping the day before y.day.'

(10) (a) Péter két filmet látott, Mari pedig az összeset [~~látta~~]. FWE
Peter two movie saw-indef Mary and the all saw-def
'Peter saw two movies, and Mary [saw] all.'

(b) ??Péter két filmet [~~látott~~], Mari pedig az összeset látta. BWE
'Peter [saw] two movies, and Mary saw all.'

(c) *Péter két [~~filmet látott~~], Mari pedig az összes filmet látta. BWE
'Peter [saw] two [movies], and Mary saw all of the movies.'

If the same sorts of non-parallel licensing mechanisms were available as in FWE cases (viz. agreement, selection), the (b) examples should be no worse than the (a) examples which is not the case. As the following examples show, there is nothing wrong with BWE itself in strict identity cases.

(11) (a) Péter tegnap [~~vásárolt~~], Mari pedig tegnapelőtt vásárolt.
Peter yesterday shopped Mari and yesterday-before shopped
'Peter [shopped] yesterday, and Mary shopped the day before yesterday.'

(b) Péter két filmet [~~látott~~], Mari pedig négyet látott.
Peter two movie saw-indef Mary and four saw-indef
'Peter [saw] two movies, and Mary saw four.'

(c) Péter két [~~filmet látott~~], Mari pedig négy filmet látott.
Peter two movie saw-indef Mary and four movie saw-indef
'Peter [saw] two [movies], and Mary saw four movies.'

On the basis of (7) (11) we conclude that although BWE is not subject to the requirement of full identity between the phonological shapes of licensor and licensee (contrary to Wilder's observations for English), yet the possible formal differences are very limited in fact, much more limited than in FWE. The only "sloppiness" allowed is that (i) overt non-null tense marking can license the elision of a null-tense form (i.e., an infinitive) of the same root (see (7b)),[3] and (ii) the licensor and the licensee can differ in agreement specifications as long as

[3] Note, in this context, that the 3sg forms may not even contain an agreement suffix at all, at least with non-pronominal subjects, i.e., not only is the word-form of the elided V a substring of the licensing V, but the features of the elided V are also the subset of the features of the licensor see Bartos (1999).

the elided V-form is a substring of the licensing one (cf. the ellipsis of the form *vásárolt* licensed by the form *vásároltam* in (8b)). In other words, not all cases of local licensing via agreement are possible in BWE that are available in FWE, shown in Bartos (2000a). But the (albeit somewhat marginal) acceptability of the non-identity of phonological forms leads to the view (*contra* Wilder) that morphological non-insertion, rather than phonological deletion is at play here, and as opposed to FWE, in BWE it must be ensured somehow that the non-insertion of phonological shapes cannot be licensed by local relations like agreement. Unfortunately, this must be stipulated right now (just as Wilder has to stipulate deletion vs. non-insertion – something empirically unconfirmable), but we may hope to find some deeper explanation for this in future research.

Let me briefly note that there is another, more permissive dialect, too, in which BWE of V-forms obeys exactly the same constraints as FWE, that is: a tensed form licenses the ellipsis of an untensed form, and the agreement specifications of the licensor and the licensee can freely differ (including object agreement), as long as the elided Agr-values are recoverable via local, conjunct-internal relations. In this dialect, then, BWE is no less indicative of the non-insertional nature of ellipsis than FWE. Analysing BWE as non-insertion, in general, brings the two dialects closer to each other than under a "non-insertional FWE vs. deletional BWE" setting proposed by Wilder (1997).

Let us say then that all instances of BWE, and at least some instances of FWE arise by non-insertion at MS, albeit under different conditions. This difference may be traced back to the different nature of the two kinds of ellipsis: while FWE is anaphoric, BWE is not. There are both general, and particular arguments for such a distinction.

Anaphoric dependencies fall under a general pattern, as adopted from Williams (1997, 588):

(12) **General Pattern of Anaphoric Dependencies (GPAD)**
Anaphoric dependencies are forward and/or downward.

By "forward" we mean that the antecedent/licensor must linearly precede the anaphor – in our particular cases: the ellipsis site. "Downward", in turn, means that the antecedent must c-command the anaphor, or at least the antecedent, must be in a clause superordinate to the clause containing the the anaphor. It follows then, that if the "antecedent" neither precedes, nor is higher (in the relevant sense just given) than the alleged anaphor (which is exactly the case with BWE, provided we take the identical string in the parallel conjunct

to be the intended antecedent),[4] then there can be no anaphoric dependency established, the anaphora fails. In other words: it is not anaphoric. FWE, on the other hand, obviously satisfies the GPAD-criterion by virtue of the fact that the antecedent precedes the ellipsis site, by definition.

Secondly, there are BWE cases where no anaphoric relation is intended to hold, whereas similar cases are ill-formed as FWE:

(13) (a) Tegnap Péter "vett [~~egy könyvet~~]$_x$, Mari pedig "elovasott [egy könyvet]$_y$. $x \neq y$
yesterday Peter bought a book Mary and read(past) a book
'Yesterday Peter bought, and Mary read a book.'

(b)*Tegnap Péter "vett [egy könyvet]$_x$, Mari pedig "elolvasott [~~egy könyvet~~]$_y$.

(14) (a) Péter egy tíz-[~~betűs szót nézett meg a szótárban~~], Mari pedig
Peter a ten- lettered word looked up the dictionary-in Mary and
egy húszbetűs szót nézett meg a szótárban.
a twenty-lettered word looked up the dictionary-in
'Peter [looked up] a ten-, and Mary looked up a twenty-letter word in the dictionary.'

(b)*Péter egy tízbetűs szót nézett meg a szótárban, Mari pedig egy húsz-[~~betűs szót nézett meg a szótárban~~].

So we can establish that a key difference between BWE and FWE is that the latter, but not the former, is anaphoric, hence the licensing conditions on the two are conceivably (or even probably) different.

Eventually, there are arguments from the domain of the so-called "strict" vs. "sloppy" pronominal readings that BWE cannot be analysed as LF-copying or LF-reconstruction. Compare the following cases, w.r.t. pronoun interpretational possibilities:

(15) (a) Oszkár$_x$ szereti a pro$_{x/*y}$ kutyáját, de Max$_y$ nem [~~szereti a pro$_{x/y}$ kutyáját~~].
Oscar likes the pro dog-poss but Max not likes the pro dog-poss
'Oscar likes his dog, but Max doesn't.'

(b) Oszkár$_x$ nem [~~szereti a pro$_{x/*y}$ kutyáját~~], de Max$_y$ szereti a pro$_{y/*x}$ kutyáját.
Oscar not likes the pro dog-poss but Max likes the pro dog-poss
'Oscar doesn't [like his dog], but Max likes his dog.'

[4] The failure of BWE falling under the GPAD is even stronger under a Kaynean asymmetric view of coordination (Kayne 1994), where coordination follows the general X′-schema, the conjunctive element being the X^0 head, the first conjunct its specifier, and the second conjunct its complement. Thus the first conjunct asymmetrically c-commands the second one, not leaving even the faintest chance for the second conjunct to properly "antecede" anything in the first one.

If the BWE case (15b) was handled by LF-copying the parallel structure from the second clause into the ellipsis site, then it would be surprising why the index 'y' cannot be copied over, since this is exactly what happens in the FWE case (under a reconstructional approach): the strict-identity reading of (15a) can arise only if pro is copied over with is index linked to that of *Oszkár* – the subject of the first, non-elliptical, clause. So obviously an LF-copy procedure for BWE would do the same in (15b), giving rise to the strict reading there: 'Oscar does not like Max's dog'. But such a reading is unavailable for (15b), which means that this BWE is not backward anaphora or backward copying at LF. The straightforward solution is then to regard BWE as an effect on the PF-branch of the grammar – morphological non-insertion.

Note, also, that morphological non-insertion is a sufficient means to handle the FWE pronominal readings, too, as shown by Bartos (2000a): in this setting, (15a) is in fact two different sentences, which fall together only on the surface, due to the ellipsis. In one sentence, pro in the second conjunct bears the index of its local antecedent (*Max*), which is a universally available option of local pronominal anaphora (provided the antecedent is outside the local domain of the pronoun, which is probably the DP of the possessive construction, as ensured by any version of the binding theory, e.g., Chomsky 1981). In the other sentence underlying (15a), the pro in the second clause bears the index of the subject of the first clause (*Oscar*), which is also an unproblematic possibility.[5] The crux of the matter is ellipsis licensing, but anaphoric recoverability holds for both cases: whether pro is linked to *Max* or *Oscar,* recoverability is ensured because both dependencies conform to the GPAD, given in (12).[6]

[5] Just like it would be possible for this pro to bear an index different from both *Oscar*'s and *Max*'s, i.e., referring to a third, unmentioned party – so in fact (15a) covers not two but three sentences.

[6] Note, incidentally, that the whole issue of pro-drop, i.e., the "silencing" of personal pronouns may fall under the general notion of non-insertion, too: pro is none else than a featurally (fully) specified personal pronoun left unpronounced, so at the levels of syntax preceding MS it is indistinguishable from "ordinary", pronounced personal pronouns, i.e., the ones that are due to be paired with their sound forms. However, the anaphoric relations governing "pro-drop" are different from those of proper ellipsis. For instance, pro-drop can be backward and not downward without form identity:

(i) A pro_x kutyája csodálja Oszkárt$_x$.
the pro dog-poss admires Oscar-acc
'His$_x$ dog admires Oscar$_x$.'

4. FWE as morphological non-insertion: The "meaning postulate" cases

As promised in section **2,** I will show here how far the non-insertion analysis of ellipsis can be pushed, to incorporate ellipses where there is no strict form-identity between the elided string and the licensing one in a parallel conjunct.

Cases like (1) and (2), repeated here, are handled readily, as has been demonstrated by Bartos (2000a): the φ-feature difference in (1) is licit because the V-root and the inflectional items (Tense, Agr) are to be licensed for ellipsis separately, thus the root and tense-marking are licensed by the corresponding identical items in the parallel conjunct, while Agr can be rightfully elided because it is identified by the local agreement relation with the (plural) subject of the clause containing the ellipsis site.

(1) John drinks wine and his kids [~~drink~~] coke.
3sg non-3sg

Things are different in (2): here the elided tense-marking is not properly identifiable, since it is neither identical to is counterpart in the first clause, nor is it in any formal agreement relation with any potential identifier in its local clause domain.

(2) *John arrives tomorrow, and his wife [~~arrived~~] yesterday.

Observe that the time adverbial ('yesterday') does not count as a proper licensor, even though it has past reference, because there is no formal agreement between it and the tense-marker.[7]

Cases like (3) and (4) – also repeated here – are more of a problem for a "simple", non-reconstructional theory of ellipsis.

[7] Although not clearly demonstrable in English, the lack of formal agreement between time adverbials and tense-marking is clearly manifest in e.g., Hungarian, where a future time adverbial is compatible with past tense, and vice versa:

(i) Péter a múlt héten azt ígérte, hogy tegnap már itthon lesz.
Peter the last week-on it promised that yesterday already at_home will_be
'Peter promised last week that he would be home by yesterday.'

(ii)?Péter a jövő héten azt fogja hazudni, hogy már holnap készen volt a munkával.
Peter the next week-on it will lie that already tomorrow ready was the job-with
'Peter will lie next week that he will have been ready with the job by tomorrow.'

(3) (a) Iván szeretne Marival táncolni, de Mari nem szeretne
Ivan would-like Mary-with dance-inf but Mary not would-like
[~~Iványal~~ ~~táncolni~~]/*[~~Marival~~ ~~táncolni~~].
Ivan-with dance-inf Mary-with dance-inf
'Ivan would like to dance with Mary, but Mary wouldn't like to [dance with Ivan]/ *[dance with Mary].'

(b) Iván szeretne Marival táncolni, de Mari nem szeretne [~~táncolni~~].
'Ivan would like to dance with Mary, but Mary wouldn't like to [dance].'

(4) ?Péter egykor kiváló operaénekes volt, de ma már nem űzi aktívan
Peter once excellent opera-singer was, but today already not pursues actively
[~~az operaéneklést~~], mert tönkrementek a hangszálai.
the opera-singing, because went-damaged the vocal_cords-poss-pl
'Peter once was an excellent opera singer, but now he doesn't actively do [opera-singing], because his vocal cords have gone bad.'

In these examples the elided part is not the exact copy of the licensing antecedent in fact, an exact copy would lead to ungrammaticality in (3a, b), violating Principle C of the binding theory, besides yielding an infelicitous interpretation: the elliptical sentences are definitely not understood that way. Instead, these sentences are interpreted with a version of the antecedent manipulated in a well-defined way, as pointed out by Gyuris (2001): in (3a), the elided V has an inverse argument linking compared to its antecedent, while (3b) illustrates the truncation of the argument structure the elided V is a detransitivized variant of the antecedent V.

(16) (a) táncol(x, y-nal) → táncol(x, y-nal)
dance(x, *with* y) → *dance*(x, *with* y)
| | | |
Iván Mari Mari Iván

(b) táncol(x, y-nal) → táncol(x)
dance(x, *with* y) → *dance*(x)

(17) is a further example illustrating the phenomenon of argument structure and argument linking manipulations, though the variance possibilities are different.

(17) Viki és Gabi szeretnének összeházasodni, de Gabi nem mer [~~összeházasodni~~ ~~Vikivel~~]/*[~~összeházasodni~~], mert az apja utálja Vikit.
Vic and Gaby would-like-3pl together-marry but Gaby not dares together-marry Vic-with together-marry because the father-poss hates Vic
'Vic and Gaby would like to marry each other but Gaby doesn't dare to [marry Vic]/[get married] because her father hates Vic.'

Here the two argument roles of *összeházasodik* 'marry' are distributed between members of a coordination in the antecedent clause, while they are separated in the elliptical one.

Gyuris (2001) proposes to capture the relations between the argument structure/linking variants via meaning postulates (meaning equivalence, entailment), to be encoded in the lexicon. More precisely, certain items in the "narrow" lexicon (e.g., *táncol, összeházasodik*) will be marked for being affected by these postulated meaning relations. Put formally, for the verb *táncol* 'dance' there will exist a V_{inv}, whose property is that its arguments will be swapped w.r.t. the basic V, and there will also be a V_{detr}, whose property is that it lacks one (in fact, either one) of the arguments of the basic V. Likewise, for *összeházasodik* 'marry' there will be a formal equivalence between a V with asymmetric arguments: *marry*(*x, with y*), and a V_{symm} with symmetrized arguments: *marry*(*x and y*).

With this technical device in our hands, we can simply rely on the non-insertion strategy for this type of non-identical FWE. Recall that in this model all lexical items, including the to-be-elided ones (in all cases of BWE, and in many cases of FWE), are present in the syntactic structure, and none of them bears its phonological features before MS. So (3a, b) appear as (18a) and (18b), respectively. (SMALL CAPITALS denote syntactic-semantic feature bundles without phonological forms.)

(18) (a) IVÁN SZERETNE MARIVAL TÁNCOLNI, DE MARI NEM SZERETNE IVÁNNAL TÁNCOLNI.
Ivan would-like Mary-with dance-inf but Mary not would-like Ivan-with dance-inf
'Ivan would like to dance with Mary, but Mary wouldn't like to dance with Ivan.'

(b) IVÁN SZERETNE MARIVAL TÁNCOLNI, DE MARI NEM SZERETNE TÁNCOLNI.
Ivan would-like Mary-with dance-inf but Mary not would-like dance-inf
'Ivan would like to dance with Mary, but Mary wouldn't like to dance.'

Note that the impossible "reconstructions" (*Mari nem szeretne Marival táncolni* 'Mary wouldn't like to dance with Mary') cannot exist at all, not being well-formed syntactic constructions. Now, when it must be determined at LF which items may undergo ellipsis, i.e., non-insertion of sound forms, licensing

conditions must be checked. The parallel antecedent clause licenses the ellipsis of the infinitival clause on the following grounds: the verbs in the two conjuncts are identical except for argument structure/linking, but they are equivalent in this respect, too, via the meaning postulates lexically associated with them. Since the infinitival clause of the second conjunct in (18a, b) contains the equivalent of the one in the first conjunct (i.e., the argument swap in (18a) and the argument loss in (18b) are taken care of as recoverable), parallelity as a sufficient condition renders non-insertion licit for the infinitival clauses. In a formalized fashion:

(19) (a) V licenses the ellipsis of a structurally parallel V_{inv} together with its arguments.
(b) V licenses the ellipsis of a structurally parallel V_{detr}.

This way we arrive at the well-formed (3a, b). (17) works in exactly the same way, modulo the nature of the equivalence, encoded in the meaning postulate. Thus we have been able to derive one type of ellipsis licensing between non-identical items without recourse to the less well-defined notions of LF-reconstruction and anaphor interpretation, by applying the independently needed non-insertion strategy at MS.

5. Beyond meaning postulates? A further type

Let us return now to yet another type of non-identity FWE that illustrated in (4) (repeated here).

(4) ?Péter egykor kiváló operaénekes volt, de ma már nem űzi aktívan
Peter once excellent opera-singer was, but today already not pursues actively
[~~az operaéneklést~~], mert tönkrementek a hangszálai.
the opera-singing, because went-damaged the vocal_cords-poss-pl
'Peter once was an excellent opera singer, but now he doesn't actively do [opera-singing], because his vocal cords have gone bad.'

Here some relation is supposed to be established between the antecedent noun *operaénekes* 'opera singer' and the elided one *operaéneklés* 'opera singing', for the ellipsis to be recoverable, hence licit. First note that it is not some very loose interpretive relationship, witness the fact that it cannot cross categorial boundaries, as was shown by (5), and it has to be a relatively strict correspondence of derivational patterns, as seen in (20).

(5) *Péter kiváló operaénekes volt, de ma már nem tud [~~(operát)~~ ~~énekelni~~], mert ...
... ... not can opera-acc sing because
'Peter was an excellent opera singer, but now he can't [sing (opera)], because ...'

(20) (a)?Péter egykor kiváló kutató/autószerelő/orvos volt, de ma már
Peter once excellent researcher/car-mechanic/doctor was but today already
nem űzi aktívan [~~a(z) kutatást/autószerelést/?orvoslást~~], mert...
not pursues actively the research/car-repairing/medicine because ...
'Peter once was an excellent researcher/car-mechanic/doctor, but now he doesn't actively [do research/repair cars/practice medicine] because ...'

(b)*Péter egykor kiváló tanár/lakatos/tudós volt, de ma már
Peter once excellent teacher/locksmith/scientist was but today already
nem űzi aktívan [~~a tanítást/munkát/???~~], mert ...
not pursues actively the teaching/work/??? because
'Peter once was an excellent teacher/locksmith/scientist but now he doesn't actively [teach/work/???], because ...'

(20b) displays cases where no straightforward morphological connection exists between the two relevant nouns, and the ellipsis fails. So we conclude that here some sort of lexical relational rule is needed, much in the mood of meaning postulates, which states the equivalence (for purposes of ellipsis recovery) of two derivatives of the same root, such as (21).

(21) $[\,[\,\text{Root}_x\,]\ \underset{\textit{-er}}{\textit{-ó/-os}}\,]_N \quad \longleftrightarrow \quad [\,[\,\text{Root}_x\,]\ \textit{-ás}\,]_N$ (*-ing*$_N$)

This formulation is of course an oversimplification of the matter, but we do not wish to pursue here this issue in depth – suffice it to say that it seems possible to formulate the exact nature of the necessary relationship, to facilitate the handling of ellipsis by ensuring recoverability on grounds of equivalence/entailment.

So when it comes to deciding, at MS, whether it is possible to leave the phonological forms of the *-Ás* nouns uninserted, the morphologically related antecedents will act as proper licensors. To preclude the proliferation of lexical marking, this regularity must obviously be encoded in the entry of the *-Ás* suffix, the "common denominator" of the exponents of this pattern.

As regards cases of FWE (and, for that matter, intersentential ellipsis, which, by its very nature, cannot be handled by sentence grammar) where the antecedent and the elided part are even more loosely connected, so that sometimes even semantic interpretation is at a loss when the elided content has

to be "recovered" and quite often pragmatics is called for, there seems to be no alternative to the null-element analysis, i.e., these ellipses must be analysed as entirely (not just phonetically) empty elements, appearing as such throughout the derivations, to be paired with semantically interpretable content at/after LF, or possibly only in the semantic component, while syntax will always only "see" them as void of any content (except, conceivably, categorial specification, or else their insertion into the syntactic phrase markers would be unconstrained or impossible). Presumably, however, anaphoricity is a property of these ellipsis types, too, so whatever conditions, rules, or mechanisms apply to anaphors in general, are supposedly valid for these as well. Such cases include antecedent contained ellipsis (see e.g., Fiengo May 1994; Brody 1995; Hornstein 1995) which possibly involves the operation of "vehicle change", a conversion between quantifiers and variables, or R-expressions and pronouns, and this is obviously something totally outside the potential application domain of our non-insertion analysis.

6. The true nature of the difference between BWE and FWE

To summarize the main points of our discussion of ellipsis types so far: on the basis of directionality, we can distinguish between BWE and FWE, and on the basis of the nature of emptiness, we can distinguish phonetic deficiency (PD; arising by the non-insertion of sound forms) from full formal deficiency (FFD; i.e., the presence of a null-element in the syntactic structure). BWE is always PD, while FWE is divided into two subtypes: PD and FFD. The major properties of these types (cf. also Wilder 1997) should be derivable:

BWE

- not necessarily a constituent
- must be contiguous and right-peripheral
- condition: total form/feature identity with, or (string or featural) containment in, the licensor (in a subsequent parallel conjunct)

PD FWE

- necessarily a (string of) constituent(s)
- must be contiguous
- condition: equivalence with (or derivability from) licensor (in a preceding conjunct)

FFD FWE

- purely anaphoric
- not necessarily identical to, equivalent with, or derivable from a parallel licensor
- necessarily a constituent (represented by a null-element in the syntactic structure)

The properties of FFD FWE follow directly from its nature as a null category node: as a semantically empty category, it has to be in an anaphoric relation to be interpretable, but anaphora does not necessarily involve form-equivalence.

Since BWE does not qualify as an anaphoric relation, not conforming to the GPAD (see (12) above), the decision of insertion vs. non-insertion of sound forms at MS cannot depend anaphorically on the licensor, so the grammar has no other choice than checking for form identity, thereby making content recovery possible relying on parallel identity in the phase of processing on behalf of the addressee of communication. This form identity checking also severely limits local, clause-internal recoverability licensing, perceived in FWE cases, so "sloppy identity" is less apt in BWE. Right peripherality must be stipulated, cf. the peripherality condition of Wilder (1997, 92). The contiguity of elided words follows now: if the alleged ellipsis site was discontinuous, then any of its segments other than the rightmost one could not be right peripheral, in violation of the peripherality condition.

What remains needed now is an account of the properties of PD FWE. Recall that this is phonological non-insertion, just like BWE, with an item-by-item licensing, falling under the general notion of recoverability. Peripherality is not imposed by any condition. However, due to the anaphoric potential of FWE, also present in these cases, not just with FFD FWE, recoverability licensing may be both local and non-local – the former comprising selectional and agreement relations, as was seen in (7a)–(10a). In other words: recoverability is based on formal features, rather than sound forms: if the formal features of an item are identical to those of either a local relational licensor, or of a corresponding item in a parallel structure, that item can be subject to phonological non-insertion, i.e., ellipsis. The only thing our analysis still lacks is an explanation for the obligatory contiguity of PD FWE – which must therefore be stipulated.

Finally, with respect to the marginal acceptability of (7b), (8b) and (10b), we note that in BWE the local licensing widely available for FWE may be evoked, too, although the result will be definitely degraded grammatically,

except for the other dialect mentioned in section **3.** This suggests that the blocking on the application of these licensing mechanisms (agreement, selection) in the case of BWE (as opposed to FWE) must be some very low-level condition, not any deep-rooted principle, as it can obviously be suspended, either under pressure from the linguistic context, or in certain dialects. In other words, the strength of the non-elided material can facilitate the forceful overlooking of the form-identity criterion, allowing for local licensing to step in its place, even in the stricter dialects.

7. An alternative explanation of the FWE BWE differences

There is yet another way of explaining why BWE and FWE should differ as seen above, at least in a derivational minimalist framework. Specifically, I suggest that the essential difference is derivable from the structural asymmetry of the coordinate conjuncts (Kayne 1994) in the following way. Assume that syntactic phrase markers are built up bottom-up in a strictly cyclic fashion (as in most minimalist models, like e.g., Chomsky (1995; 1999); Collins (1997); or Uriagereka (1999)), and that they must be linearized (i.e., the linear order of lexical elements must be established) for PF. This linearization conforms to Kayne's Linear Correspondence Axiom (LCA),[8] as implemented within a derivational minimalist framework by Uriagereka (1999). His version of the LCA is as follows (*op.cit.*, 252):

(22) **Linear Correspondence Axiom**

(a) Base step: If α [c-]commands β, then α precedes β.
(b) Induction step: If γ precedes β and γ dominates α, then α precedes β.

When the phrase structure building operation Merge introduces a structurally minimal item into the structure, it will c-command all the nodes of

[8] In its original form the LCA is meant to underlie many significant features of syntactic structures, i.e., Kayne (1994) wished to derive these from the LCA, the main conceptual content of which was that hierarchical syntactic structures must be mapped to linear phonetic strings in such a way that an asymmetric c-comand relation between any two non-terminal symbols in the phrase structure maps onto a linear precedence relation between the terminal(s) dominated by those non-terminals, and whenever a unique mapping along these lines is impossible, the phrase structure is illicit. For the precise definitions and all details see Kayne (1994).

the P-marker it is merged with, so linearization is unproblematic: any category precedes all the items it c-commands. However, when two structurally complex items are merged, the c-command relations between items embedded in the two merged categories remain undetermined (put another way: there will be no c-command relations established between these), and linearization thus runs into problems. Therefore Uriagereka proposes that in such cases the complex item to be merged into the main structure (as a specifier) must undergo spell-out before Merge, i.e., its phonological features must be passed over to phonetic interpretation (or PF, if such an interface level exists), and this leaves its internals inaccessible for further syntactic operations after Merge. In a sense, the spelled-out complex becomes frozen, and behaves like a word-level compound for the rest of the derivation.

In the particular case of coordination, e.g., "A and B", which is an asymmetric relation/configuration (see Kayne 1994), the structure is built in the following way. First, both A and B are built (unless they are simplex, i.e., single words — which is never the case in our discussion of XP ellipsis) separately, in distinct "workspaces". Then the coordinating element (&) is merged with B, to yield $[_{\&P}$ & $B]$. Next, A must be merged in, too, as a specifier of &, but now, in order to avoid linearizational indeterminacy with respect to the categories inside of A, the whole of A must be spelled out, and merged with $[_{\&P}$ & $B]$ as a structural simplex, a word-level compound. So by the time a single structure emerges comprising both A and B: $[_{\&P}$ A$[_{\&'}$ & $B]]$, A must have been spelled out, i.e., it is frozen, while B can still be an active part for the subsequent steps of the derivation. This means that at the time when A and B become parts of the same structure, hence any sort of licensing relations may obtain between (parts of) them, the only legitimate operations that may affect A are PF-oriented, (morpho)phonological processes (such as morphological non-insertion, or PF-deletion, for BWE), whereas B may still undergo syntactic/LF processes like ellipsis-reconstruction, or anaphor licensing (as in FWE, at least for FFD FWE). This, then, yields the different nature of BWE and FWE immediately, without further stipulations.

8. Summary

In this paper I have argued that most cases of ellipsis, whether backward or forward, are best analysed as non-insertion of sound shapes at the level of morphology (in a late-insertion framework, such as Halle Marantz's (1993) Distributed Morphology), the key difference between BWE and FWE being that

the latter is anaphoric, hence it allows for "sloppiness" by local identification of the feature content of the elided material, while the former is based on the strict identity or at least containment of sound forms and/or feature content between the elided sequence and its licensor in a parallel conjunct, which is the only option, as BWE is non-anaphoric. Furthermore, I have shown that many cases of FWE, seemingly escaping a treatment in terms of identity, can be incorporated in our analyses by the involvement of lexical equivalence/entailment relations encoded in the form of meaning postulates. This helps narrow down the scope of interpretive and pragmatic ellipsis resolution to an inevitable minimum.

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MULTIPLE LEXICAL SELECTION AND PARALLELISM IN HUNGARIAN VP ELLIPSIS

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Abstract

We propose that forward and backward ellipsis should both be regarded as the non-insertion of the phonological form under the terminal nodes of fully specified lexical grammatical feature matrices. We conceive of the creation of structures with VP ellipsis as the multiple selection from the lexicon of the lexical items relevant for the licensing and execution of ellipsis and enumerating them at the syntactic input in such a way that they can satisfy the constraints of structural and referential parallelism. It is in this case that the option of not inserting the phonological form may be chosen.

1. The use of the term *ellipsis*

This paper outlines the proposal that forward and backward ellipsis should both be regarded as the non-insertion of the phonological form into the representation of the sentence, that is, as the failure of the insertion of the phonological form under the terminal nodes comprising otherwise fully specified lexical grammatical feature matrices. Accordingly, lexical and grammatical features are present in the position of ellipsis (as well), and thus participate in the interpretation of sentence meaning. This approach rejects the view that the "missing" material would be missing syntactically, or deleted phonetically, and therefore would have to be reconstructed or "copied" syntactically. "Silent" lexical items without a phonological form will be claimed to be subject to ellipsis. Lexical items with a phonological form, which make the identification of the former possible, are available in another, coordinated or subordinated clause. These will be called licensers. Based on the explicit licensing material, the lexical items which lack a phonological form, that is, which are subject to ellipsis, have to be precisely identifiable within their clause.[1]

[1] We are only concerned with ellipses characterizable by grammatical rules and not with those which arise exclusively from communicative, pragmatic or discourse conditions, like, for example, labels, titles or speech acts based on the context.

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We conceive of the creation of structures with VP ellipsis as the multiple selection from the lexicon of the lexical items relevant for the licensing and execution of ellipsis and enumerating them at the syntactic input in such a way that they can satisfy the constraints of structural and referential parallelism. It is in this case that the option of not inserting the phonological form may be chosen.

2. The analysis of the data

Hungarian coordinated clauses may contain forward and backward ellipsis. If the licensing clause precedes the clause containing ellipsis, we are dealing with **forward ellipsis**. If the licensing clause follows the elliptic one, we are dealing with **backward ellipsis**.[2]

2.1. Reversible ellipsis in sentences containing eradicating stress

Non-neutral sentences contain constituents with eradicating stress.[3] Thus they contain **at least one** of the following structures: focus, negative phrase, wh-phrase or contrastive quantifying phrase.

The structures subject to ellipsis are marked by ~~striking through~~. CAPITALS denote the contrastive emphasis of the quantifier and the focus position (and the negated version of the latter). *ITALICIZED CAPITALS* mark the emphasis of the contrastive topic position.

There exist data which show that the direction of ellipsis can be reversed. In the following sentences both forward and backward V and VP ellipsis would be possible. Let us now examine the latter type.

(1) Pista egy RENDŐRHÖZ [~~futott oda~~], és János egy TŰZOLTÓHOZ futott oda
P a policeman-to [ran there] and J a fireman-to ran there
'Steve ran to a policeman and John to a fireman.'

[2] In what follows, we are going to extend and redevelop our earlier descriptions of the two directions of ellipsis in coordinated clauses (Bánréti 1992; 1994).

[3] Based on Kálmán (1985), we regard eradicating stress as one which makes it impossible that any following constituents have stress of an equal intensity, that is, eradicates that stress. The domain of the constituent with eradicating stress may extend to the end of the sentence, or to another nonadjacent constituent with the same degree of stress. Eradicating stress may be the means of expressing contrast between coordinated clauses, repair relations or emphasis.

(2) János JÓL [~~tanul~~], de Mari MÉG jobban tanul.
J well [learns] but M even better learns
'John is a good student but Mary is an even better student.'

(3) Te reggel a SZERKESZTŐNEK [~~írtad meg a választ~~],
you morning the editor-for [wrote-2sg pef the answer-acc]
én meg este a KIADÓNAK írtam meg a választ.
I and evening the publisher-for wrote-1sg perf the answer-acc
'You wrote the answer to the editor in the morning,
and I wrote the answer to the publisher in the evening.'

2.2. Backward ellipsis is only grammatical in coordinated clauses with a parallel structure

Forward ellipsis may be produced in clauses with non-parallel structures as well. The native speakers interviewed judged both the clauses in (4), with a parallel structure, and those in (5) and (6), with non-parallel structures, grammatical. In the latter two the licenser clause with a neutral intonation is followed by an elliptic clause containing a constituent with eradicating stress: a quantifying phrase and focus, respectively.

(4) Misi megbeszélt Erzsivel egy forgatókönyvet,
M discussed E-with a screenplay-acc
Robi pedig [~~megbeszélt Erzsivel~~] egy novellát.
R whereas [discussed E-with] a short story-acc
'Mike discussed a screenplay with Beth,
whereas Rob discussed a short story with her.'

(5) Misi megbeszélt Erzsivel egy forgatókönyvet,
M discussed E-with a screenplay-acc
Robi pedig egy NOVELLÁT IS [~~megbeszélt Erzsivel~~].
R whereas a short story-acc too [discussed E-with]
'Mike discussed a screenplay with Beth,
while Rob discussed a short story too with her.'

(6) Misi megbeszélt Erzsivel egy forgatókönyvet,
M discussed E-with a screenplay-acc
Robi pedig egy NOVELLÁT [~~beszélt meg Erzsivel~~].
R whereas a short story-acc [discussed E-with]
'Mike discussed a screenplay with Beth,
while Rob discussed a short story with her.'

Backward ellipsis, on the other hand, can only arise in clauses containing parallel structures: the lexical items at the edges of the domain of ellipsis in the

nonfinal clause have categorially and positionally equivalent counterparts in the final, licensing clause. Let us compare (7) and (8) with the well-formed (1) and (3).

(7) *Pista egy RENDŐRHÖZ [~~futott oda~~], és egy tűzoltóhoz JÁNOS futott oda.
P a policeman-to [ran there] and a fireman-to J ran there

(8) *Te reggel a SZERKESZTŐNEK [~~írtad meg a választ~~], a kiadónak
you morning the editor-for [wrote-2sg perf the answer-acc] the publisher-for
meg ÉN írtam meg a választ.
and I wrote-1sg perf the answer-acc

The beginning of the domain of backward ellipsis and the beginning of the licensing domain in the final clause is marked by (the constructions of) lexical items which are of the same category but are not identical lexical items. These categorially identical lexical items form pairs which are parallel with respect to their sequential position, since both occupy the same place in their own clause. The members of the pairs may also be coordinated within one clause, in a single endocentric phrase, cf. (9).

(9) Te [a szerkesztőnek és a kiadónak] megírtad a választ.
you [the editor-for and the publisher-for] wrote-2sg the answer-acc
'You wrote the answer to the editor and the publisher.'

Within the domain of ellipsis there may be **totally identical** lexical items:

(10) Te csak PLETYKÁLTÁL [~~arról, hogy kivel látták a királynőt~~],
you only gossiped [that-about conj who-with saw-3pl the queen-acc]
de én ÍRTAM is arról, hogy kivel látták a királynőt.
but I wrote too that-about conj who-with saw-3pl the queen-acc
'You only gossiped about who the queen was seen with, but I also wrote about it.'

2.3. The Immediate Precedence Condition

A clause containing backward ellipsis at its right edge must immediately precede the licensing clause, which also contains the licensing material at its right edge. Backward ellipsis may precede its licenser, but only if it does not c-command it. In other words, there may be licensed backward ellipsis in a subordinated clause, as part of the licensing clause, cf. (11a). A licenser in the subordinated clause, however, is not grammatical for backward ellipsis in the matrix clause, cf. (11b).

(11) (a) Annak ellenére, hogy Mari egy CIGÁNYZENEKART [~~szerződtetett az~~
that-for in-spite conj M a Gypsy-band-acc [hired the
~~ünnepségre~~]. Gyuri egy DZSESSZÉNEKESNŐT szerződtetett az ünnepségre.
ceremony-for] G a jazz-singer-acc hired the ceremony-for
'In spite of the fact that Mary hired a Gypsy band for the ceremony, Georgie hired a jazz singer.'

(b) ?*Gyuri egy DZSESSZÉNEKESNŐT [~~szerződtetett az ünnepségre~~], annak
G a jazz-singer-acc [hired the ceremony-for] that-for
ellenére, hogy Mari egy CIGÁNYZENEKART szerződtetett az ünnepségre.
in-spite conj M a Gypsy-band-acc hired the ceremony-for

In the case of forward ellipsis the licenser precedes and c-commands the licensed ellipsis.

(12) Gyuri egy DZSESSZÉNEKESNŐT szerződtetett az ünnepségre, annak
Georgie a jazz-singer-acc hired the ceremony-for that-for
ellenére, hogy Mari egy CIGÁNYZENEKART [~~szerződtetett az ünnepségre~~].
in-spite conj M a Gypsy-band-acc hired the ceremony-for
'Georgie hired a jazz singer for the ceremony, in spite of the fact that Mary hired a Gypsy band for it.'

2.4. Non-reversible VP ellipsis: backward ellipsis is not compatible with expressions explicitly referring to the elliptic structure

There exist data in which "reversing" forward ellipsis results in doubtfully grammatical or ungrammatical sentences. While the sentences in (13), containing forward VP ellipsis, are grammatical, those in (14), containing VP ellipsis reversed backwards, become ungrammatical.

(13) (a) *TE* a HÁZMESTERNEK adtad oda a pénzt és *JÓSKA* SZINTÉN
you the concierge-for gave-2sg there the money-acc and J also
[~~a házmesternek adta oda a pénzt~~].
[the concierge-for gave-3sg there the money-acc]
'You gave the money to the concierge and Joe gave it to him as well.'

(b) János NAGYON jól tanul, de Mari KEVÉSBÉ [~~jól tanul~~].
J very well learns but M less [well learns]
'John is a very good student, but Mary is a worse student.'

(c) János EGY kiló répából főzött levest, Mari meg KÉTSZER
J one kilogram carrot-from cooked soup-acc M and twice
annyi répából [~~főzött levest~~].
that-much carrot-from [cooked soup-acc]
'John cooked some soup of one kilogram of carrots and Mary of twice that amount.'

(14) (a) ?**TE* [~~a házmesternek adtad oda a pénzt~~] és *JÓSKA* SZINTÉN a
you [the concierge-for gave-2sg there the money-acc] and J also the
házmesternek adta oda a pénzt.
concierge-for gave-3sg there the money-acc

(b) ?*János NAGYON [~~jól tanul~~], de Mari KEVÉSBÉ jól tanul.
J very [well learns] but M less well learns

(c) ?*János EGY kiló [~~répából főzött levest~~], Mari meg KÉTSZER
J one kilogram [carrot-from cooked soup-accn] M and twice
annyi répából főzött levest.
that-much carrot-from cooked soup-acc

The change in the grammaticality of the sentences in (14) is related to the anaphoric expression in the second clause referring backwards. All three sentences involve a constituent the meaning of which presupposes an antecedent: *kevésbé* 'less' requires a "degree-type" antecedent, *szintén* 'also' (here) presupposes that there exists an identical proposition introduced earlier, while *kétszer annyi* 'twice that much' demands an antecedent denoting quantity. In the examples the antecedent is the verb phrase or its constituent contained partly or entirely in the domain of ellipsis. As a result, back reference conflicts with backward ellipsis and the grammaticality of the sentences decreases. In case the antecedent of the back reference is not in the domain of backward ellipsis the sentence is grammatical.

(15) (a) János NAGYON jól [~~tanul~~], de Mari kevésbé jól tanul.
J very well [learns] but M less well learns

(b) János EGY kiló répából$_i$ [~~főzött levest~~], Mari meg KÉTSZER
J one kilogram carrot-from [cooked soup-acc] M and twice
annyi[*pro*$_i$]-ból főzött levest.
that-much -from cooked soup-acc

2.5. Morphosyntactic conditions

Applying the findings of Bartos (2000) to backward VP ellipsis, we notice that the morphosyntactic conditions of licensing are similar to those in forward ellipsis: the strict identity of the stem and the tense marker of the licensing verb and the ellipted verb is a necessary condition, cf. (16). Since the Agr-suffixes attached to the verb are locally licensed by the person/number features of the clause-internal subject (and object) and the definiteness feature of the object, the ellipsis of Agr-suffixes may also be licensed if the Agr-suffixes of the ellipted verb and those of the parallel verb are not identical, cf. (17).

(16) (a) János MA ~~[tette le a vizsgát]~~, Péter meg TEGNAP tette le
J today [put-past down the exam-acc] P and yesterday put-past down
a vizsgát.
the exam-acc
'John passed the exam today, and Peter passed it yesterday.'

(b) *János MA ~~[teszi le a vizsgát]~~, Péter meg TEGNAP tett le a
J today [put-pres down the exam-acc] P and yesterday put-past down the
vizsgát.
exam-acc
'John passed the exam today, and Peter passed it yesterday.'

(17) (a) Ti SZÍNHÁZBA ~~[mentek]~~, én pedig MOZIBA megyek.
you-pl theatre-into [go-2pl] I and cinema-into go-1sg
'You go to the theatre and I go to the cinema.'

(b) Mi csak NÉHÁNY gyereket ~~[mosdattunk meg]~~, de te
we only few child-acc [washed-1pl-indef perf] but you
az ÖSSZESET megmosdattad.
the all-acc perf-washed-2sg-def
'We washed only a few children but you washed them all.'

In forward VP ellipsis a tensed verb may license the ellipsis of an infinitive, unspecified for tense, be it an unsuffixed infinitive or one with a person suffix. The same licensing is possible in backward VP ellipsis as well.

(18) (a) Péter csak HOLNAP fogja ~~[letenni a vizsgát]~~, de János MA teszi le
P only tomorrow will [down-put-inf the exam-acc] but J today puts down
a vizsgát.
the exam-acc
'Peter will pass the exam only tomorrow, but John passes it today.'

(b) *TI* NEM akartatok ~~[inni a borból]~~, *MI* viszont
you-pl not wanted-2pl [drink-inf the wine-from] we however
ITTUNK a borból.
drank-1pl the wine-from
'You did not want to drink of the wine, but we did drink of it.'

2.6. Backward DP ellipsis

Forward DP ellipsis may be converted into backward ellipsis. Let us first examine cases of forward DP ellipsis.

(19) (a) Én VETTEM drága autót, te meg ÁRULTÁL ~~[drága autót]~~.
I bought expensive car-acc you and sold [expensive car-acc]
'I bought an expensive car, and you were selling one.'

(b) János MESÉLT az énekesnőről, Róbert meg PLETYKÁLT [~~az énekesnőről~~].
J talked the singer-about R and gossiped [the singer-about]
'John talked about the singer and Robert gossiped about her.'

(c) Sándor csak VÁSÁROLT egy könyvet, Mari viszont EL IS OLVASOTT
S only bought a book-acc M however perf too read
[~~egy könyvet~~].
[a book-acc]
'Alex only bought a book, Mary however read a book as well.'

Converted to backward ellipsis we get the following:

(20) (a) Én VETTEM [~~drága autót~~], te meg ÁRULTÁL drága autót.
I bought [expensive car-acc] you and sold expensive car-acc
'I bought an expensive car and you sold one.'

(b) János MESÉLT [~~az énekesnőről~~]. Róbert meg PLETYKÁLT az énekesnőről.
J talked [the singer-about] R and gossiped the singer-about
'John talked about the singer and Robert gossiped about her.'

(c) Sándor csak VÁSÁROLT [~~egy könyvet~~], Mari viszont EL IS OLVASOTT
S only bought [a book-acc] M however perf too read
egy könyvet.
a book-acc
'Alex only bought a book, Mary however read a book as well.'

The interpretation of the data obtained by this means is debated in the literature. Besides backward ellipsis, there is also a considerable tradition of supposing right node raising here. Below we are going to argue that these cases are not the result of right node raising but of backward ellipsis. Indeed, movement is not involved even in true right node raising, there we are dealing with *in situ* constituents, which may not be put to their position by movement.

This is supported by data in which the rightmost constituent has a "discontinuous" antecedent, one element of which is found in one and another in another clause. This is the case in the two sentences in (21) (Moltmann 1992). In (22) the rightmost constituent was copied into both clauses. If the result is grammatical at all, their interpretation is not the same as of those in (21).

(21) (a) János fütyülte [ ], Mária pedig dúdolta [ ] ugyanazt a dallamot.
'John whistled [ ] and Mary hummed [ ] the same tune.'

(b) Péter dicsért [ ], Vera pedig bírált [ ] más-más embereket.
'Peter praised [ ] and Vera criticized [ ] different people.'

(22) (a) János fütyülte ugyanazt a dallamot, Mária pedig dúdolta ugyanazt a dallamot.
'John whistled the same tune and Mary hummed the same tune.'

(b) Péter dicsért más-más embereket, Vera pedig bírált más-más embereket.
'Peter praised different people and Vera criticized different people.'

2.7. Backward ellipsis differs from the coordination of constituents of non-identical categories

One alternative for "eliminating" backward ellipsis is the assumption of the coordination of constituents of non-identical categories. In this case it is not ellipsis that the sentence involves but a coordinated structure which – in contrast to the standard situation – would consist of the coordination of different categories, like for example, |*Én az évzárón Jánost és te a bulin Pétert*|... The interpretation of the type of backward VP ellipsis illustrated in (23), however, does not support this alternative.

(23) Én az évzárón JÁNOST$_i$ |~~láttam e_i táncolni~~|, te meg a bulin
I the closing-ceremony-on J-acc |saw-1sg dance-inf|, you and the party-on
PÉTERT$_k$ láttad e_k táncolni.
P-acc saw-2sg dance-inf
'I saw John dancing at the closing ceremony and you say Peter dancing at the party.'

If (23) were produced by coordinating non-identical constituents, the interpretation that the subject of *táncolni*, which lacks a phonological form, is first identical to the constituent *JÁNOST*$_i$ (e_i) and then to the constituent *PÉTERT*$_k$ (e_k) would be impossible. In other words, there would remain only one structure with a phonological form in the clause on the right-hand side (*láttad (e) táncolni*), preceded by a "fake constituent" coordination of the type shown within brackets in (24).

(24) ?|Én az évzárón JÁNOST$_i$| |te meg a bulin PÉTERT$_k$| **láttad** $e_?$
I the closing-ceremony-on J-acc, you and the party-on P-acc saw-2sg
táncolni.
dance-inf

In this case, however, it would be hard to provide a grammatical derivation which suits the meaning of the sentence, according to which there are two dancing events with two different subjects, John is dancing in one case and Peter in the other.

On the other hand, the assumption of backward VP ellipsis, expressed by (23), suits the grammatical features and the meaning of the sentence. The licensing domain and the domain subject to ellipsis may differ in their locally licensed and therefore locally identifiable and retrievable syntactic features. As

examples, we may cite the divergent binding and indexing of empty categories and the different person and number inflexions on verbs, which are locally retrievable. It can be seen in (23) that the person/number/definiteness agreement of the verb in the licensing clause is local (*te... **láttad*** 'you saw-2sg'), and we have to suppose a similarly local agreement for the verb of the elliptic domain: [~~*én... láttam*~~] 'I saw-1sg'. The collective agreement of *én* ('I') and *te* ('you') with the verb requires the form ***láttuk*** 'saw-1pl'. If the sentence did not involve ellipsis, that is, if it contained the coordination of constituents of different categories, such an agreement would be obligatory. What we see is the opposite: the agreement corresponds to the expectations in backward ellipsis, agreement is local in (23). Local agreement is also observed if ellipsis is converted to the forward type:

(25) Én az évzárón JÁNOST$_i$ [~~láttam e_i táncolni~~], te meg a bulin
I the closing-ceremony-on J-acc [saw-1sg dance-inf], you and the party-on
PÉTERT$_k$ láttad e_k táncolni.
P-acc saw-2sg dance-inf
'I saw John dancing at the closing ceremony and you saw Peter dancing at the party.'

(26) Én az évzárón JÁNOST$_i$ láttam e_i táncolni, te meg a bulin
I the closing-ceremony-on J-acc saw-1sg dance-inf, you and the party-on
PÉTERT$_k$ [~~láttad e_k táncolni~~].
P-acc [saw-2sg dance-inf]
'I saw John dancing at the closing ceremony and you saw Peter dancing at the party.'

For this reason both (25) and (26) are cases of ellipsis, but while (25) is of the forward, (26) is of the backward type.

2.8. The lexical head may in itself be ellipted in the case of backward ellipsis

Structures ill-formed as forward VP ellipsis may become grammatical as backward VP ellipsis. let us first examine ill-formed forward N ellipsis and ill-formed forward Adv ellipsis.

(27) (a) *Én megvettem egy DRÁGA autót, te meg ELADTÁL egy OLCSÓ [~~autót~~].
I perf-bought an expensive car-acc you and sold a cheap [car-acc]

(b) *Péter pletykált a KACÉR énekesnőről, és János mesélt a HÓBORTOS
P gossiped the flirtatious singer-about and J talked the whimsical
[~~énekesnőről~~].
[singer-about]

(c) *A kutya csaholt a kerítéstől FÉL méterrel beljebb, a gazda meg állt
the dog yelped the fence-from half metre-with further-in the master and stood
a kerítéstől KÉT méterrel [~~beljebb~~].
the fence-from two metre-with [further-in]

As cases of backward ellipsis the sentences become well-formed:

(28) Te eladtál egy olcsó [~~autót~~], én pedig megvettem egy drága autót.
'You sold a cheap car, whereas I bought an expensive one.'

(29) Péter pletykált a KACÉR [~~énekesnőről~~], és János mesélt a HÓBORTOS énekesnőről.
'Peter was gossiping about the flirtatious [singer] and John was talking about the whimsical one.'

(30) A kutya csaholt a kerítéstől FÉL méterrel [~~beljebb~~], a gazda meg állt a kerítéstől KÉT méterrel beljebb.
'The dog was yelping half a metre behind the fence and the master was standing two metres behind it.'

In backward ellipsis, then, the lexical head of a noun phrase with a determiner may in itself be ellipted if its modifier receives eradicating stress. Similarly, the lexical head of an adverbial phrase can in itself be ellipted in backward ellipsis. Neither possibility is available in forward ellipsis.

2.9. The lexical head cannot be substituted by a hidden pronoun in the case of backward ellipsis

Although in the case of forward ellipsis a nominal lexical head cannot in itself be ellipted, it may be substituted by a hidden pronoun lacking a phonological form, which refers back to the lexical head of the parallel DP antecedent. The case marker affixed to the whole DP is not affected by the substitution of the lexical N head (e.g., a *hóbortos* pro_i*-ról* 'the whimsical pro-about'):

(31) (a) Péter pletykált a KACÉR énekesnőről$_i$, és János mesélt a HÓBORTOS [pro_i]-ról.
'Peter was gossiping about the flirtatious singer and John was talking about the whimsical one'

(b) *Péter pletykált a KACÉR énekesnőről, és János mesélt a HÓBORTOS [~~énekesnőről~~].
'Peter was gossiping about the flirtatious singer and John was talking about the whimsical [singer].'

The N | Infl lexical head of the possessive NP can be substituted by the pronoun *-é*, which is bound by the N | Infl in the parallel NP, and the case markers are attached to this pronoun:

(32) (a) Én meglepődtem a DÉKÁN beszédén$_k$, te meg csodálkoztál a
I was-surprised the dean speech-his-on you and wondered the
REKTOR-[é$_k$]-n.
rector-pron-on
'I was surprised at the dean's speech and you wondered at the rector's.'

(b) *Én meglepődtem a DÉKÁN beszédén$_k$, te meg csodálkoztál a
I was-surprised the dean speech-his-on, you and wondered the
REKTOR [~~beszédén~~].
rector['s speech-on]

In backward ellipsis, however, the substitution of the nominal lexical head with a hidden pronoun or *-é* yields structures of (at least) doubtful acceptability:

(33) *Péter pletykált a KACÉR [*pro*$_i$]-ról, és János mesélt a HÓBORTOS énekesnőről$_i$.
'Peter was gossiping about the flirtatious one and John was talking about the whimsical singer.'

(34) *Te csodálkoztál a REKTOR-[é$_k$]-n, én pedig meglepődtem a DÉKÁN
you wondered the rector-pron-on, I and was-surprised the dean
beszédén$_k$.
speech-his-on

Let us compare the grammaticality of (33) and (34) with the perfectly grammatical (35) and (36) containing pronounless backward ellipsis, that is, in which the hidden pronoun and the *-é* is omitted and backward licensing is operative:

(35) János mesélt a HÓBORTOS [~~énekesnőről~~], Péter meg pletykált a KACÉR énekesnőről.
'John was talking about the whimsical [singer], and Peter was gossiping about the flirtatious singer'

(36) Te csodálkoztál a REKTOR [~~beszédén~~], én pedig meglepődtem a DÉKÁN beszédén.
'You wondered at the rector's speech and I was surprised at the dean's speech.'

The doubtful acceptability of (33) and (34) is the consequence of the contradiction between the facts that while the ellipsis works backwards, the binding relation between the antecedent and the pronoun is standardly directed forwards. The hidden pronoun and the *-é* may not be bound backwards by a nominal category with some overt phonological form. At the same time, with

the omission of the hidden pronoun and the *-é* the licensing of backward ellipsis becomes possible.

2.10. Phonological phrases in backward ellipsis

According to our observations so far, backward ellipsis can license the omission of the phonological form of a VP, a DP, as well as that of an N^0, Adv^0 and N + Infl. It does not follow, however, that it is only the non-insertion of the phonological form of phrasal constituents that backward ellipsis could license. For backward ellipsis it is the organization of phonological phrases that is decisive and not only the structure of constituents comprising syntactic phrases. Phonological phrases may map the structure of syntactic constituents, but may also overwrite them and deviate from them.[4] The phonological phrase is built by a dominant (eradicating) stress (e.g., focus stress) such that the phonological phrase extends to the right of the stress up to the next dominant stress, or in its absence up to the end of the sentence. Dominant stress reduces the stress of the constituents within the phonological domain to at least one degree less than its own stress.

The data below show that phonological phrases, organized according to the distribution of contrastive stresses, do not necessarily coincide with the phrasal constituents of the syntactic structures, and that backward ellipsis follows the distribution of phonological phrases.

[4] Here we subscribe to the view that rules of prosody assign stress to sentential constituents proceeding upwards from smaller to larger prosodic units (foot, phonological word, clitic group, phonological phrase, intonational phrase). In neutral sentences each phonological phrase has full, unreduced stress. In this case the prosodic mapping of the structure of the sentence follows the constituent structure. In sentences containing eradicating stress, the prosodic structure of the sentence is reorganized. Prosodic rules either leave the stress of phrases containing a focussed, a quantified or a negated expression untouched, or raise their intensity and merge them with the phonological phrases to their right. This is effected by decreasing the stress of the phrases to the right at least by one degree, and, in the case of the verb following the focus or negation it is set to zero, to unstressedness. Accordingly, each phonological phrase contains one constituent with full, unreduced stress, the constituents to its right have reduced stress and constitute one phonological phrase with it. The constituents with reduced stress belong to the phonological phrase of the nearest constituent with unreduced stress to their left.

(37) Péter megkereste a TÍZ|~~betűs szavakat a szótárban~~|, Mari pedig megtalálta
P looked-up the ten-|letter words-acc the dictionary-in| M and found
a HÚSZbetűs szavakat a szótárban.
the twenty-letter words-acc the dictionary-in
'Peter looked up the ten-letter words and Mary found the twenty-letter words in the dictionary.'

(38) Robert PÉNZ |~~nélkül vásárolt be~~|, Jani meg FEDEZET
R money |without did-the-shopping perf| J and funds
nélkül vásárolt be.
without did-the-shopping perf
'Robert did the shopping without money and Johnny without funds.'

(39) Miklós sorolta a SZOCIO|~~lingvisztikai elméleteket~~|, András meg előhozta a
M listed the socio|linguistic theories-acc| A and raised the
PSZICHOlingvisztikai elméleteket.
psycholinguistic theories-acc
'Nicholas listed the theories of sociolinguistics and Andrew raised those of psycholinguistics.'

(40) Számunkra Vali néni csak EGY |~~angol tanár~~|, de George bácsi AZ angol tanár.
for-us V aunt only one |English teacher| but G uncle the English teacher
'For us Aunt Val is just another English teacher, but Uncle George is the English teacher.'

The contrastive stress in (37) and (39) is located in the domain after the verb, whereas in (38) and (40) the pre-verbal focus position is stressed. The contrastive stresses are in parallel positions of the clauses. The common characteristic of the sentences in (37)–(40) is that only **part** of the phrasal structure is subject to ellipsis and not a full phrase. In sentences (37), (38) and (39) ellipsis does not take word boundaries into consideration since it affects the adjacent parts of two separate phrases, but not whole phrases, only the right-hand side portion of the first phrase, regardless of its category: ||*... betűs szavakat*||*a szótárban*||, ||*-letter words-acc*| |*the dictionary-in*||, ||*... nélkül*||*vásárolt be*|| [|*without*| |*did-the-shopping perf*||]. Ellipsis does not even respect the lexical integrity of lexical items, the left-hand side part of a compound may remain immune, while its right-hand side component falls victim to backward ellipsis: *TÍZ*|~~*betűs*~~*...*| *ten-*|~~*letter*~~|, *SZOCIO*|~~*lingvisztikai*~~*...*| *socio*|~~*linguistic*~~|. Only a part of the native speakers interviewed accepted (40). For this group the potential of contrastive stress for organizing phonological phrases may be so strong that it may target otherwise unstressable constituents (*EGY angol tanár, AZ angol tanár; Just an English teacher, THE English teacher*).

In these sentences the contrastively stressed, focussed constituent on the left (*HÚSZ...*, *PÉNZ...*, *SZOCIO...*) breaks the phrasal structure and develops a new prosodic constituent out of the following material. The beginning of ellipsis is marked by a prosodically prominent element, the contrastive focus. Its right-hand side **counterpart** in the licensing clause is just as prominent, it is contrastively stressed. The contrastive foci form parallel prosodic peaks. These contrastive stresses, however, are not dependent on syntactic position, they may both precede the verb and follow it. The contrast here is of a cataphoric nature: it refers forwards to the **later** recurrence of an element with the same category as the stressed one. This is only possible in the case of backward ellipsis, forward ellipsis may not transcend the boundaries and disregard the structure of phrasal constituents:

(41) *Mari megtalálta a HÚSZbetűs szavakat a szótárban, Péter pedig megkereste
M found the twenty-letter words-acc the dictionary-in P and looked-up
a TÍZ|~~betűs szavakat a szótárban~~|.
the ten-|letter words-acc the dictionary-in|

(42) *Jani FEDEZET nélkül vásárolt be, Robert meg PÉNZ |~~nélkül vásárolt be~~|.
J funds without did-the-shopping perf R and money
|without did-the-shopping perf|

(43) *Miklós sorolta a SZOCIOlingvisztikai elméleteket, András meg előhozta a
M listed the sociolinguistic theories-acc, A and raised the
PSZICHO|~~lingvisztikai elméleteket~~|.
psycho|linguistic theories-acc|

Without creating contrastive pairs, backward ellipsis which breaks phrasal constituents is of doubtful grammaticality or ungrammatical. According to the native speakers interviewed the sentence in (44), for example, would be very doubtful or ungrammatical without contrastive pairs.

(44) ?*Robert pénz |~~nélkül bevásárolt~~|,
R money |without did-the-shopping perf|
Jani meg fedezet nélkül bevásárolt.
J and funds without did-the-shopping perf

We make the following assumptions about the role of the contrastive stress. The constituent which designates the domain of backward ellipsis is one of a pair of constituents with focal stress, which interrupts a phonological phrase and develops a new phonological phrase out of the following material. By "interruption" we mean the following. In the basic case each phonological phrase has full, unreduced stress. In sentences containing eradicating stress,

the intensity of the stress of a focussed or quantified expression is raised by prosodic rules, and the phonological phrases to the right are merged with that containing eradicating stress. This "merger" is effected by decreasing the stress of the phrases to the right at least by one degree, and, in the case of the verb following the focus or negation it is set to zero. Accordingly, each phonological phrase contains one constituent with full, unreduced stress, the constituents to its right have reduced stress and constitute one phonological phrase with it. The domain of backward ellipsis is constituted by the phonological words[5] and phrases with reduced stress, immediately to the right of the phonological word with eradicating stress, all the way to the end of the clause. Because of ellipsis the phonological phrases with reduced stress following the phonological word with eradicating stress do not appear in the phonological form of the sentence. Thus the phonological phrase with eradicating stress is interrupted: in the phonological form of the sentence there is no constituent with lesser stress to the right, instead there follows a pause. The observable sign of the interruption is the pause between the clauses. After the pause comes another similarly patterned, but this time full phonological phrase again with eradicating stress.

In the basic case, syntactic structure is unambiguously and directly mappable to prosodic constituent structure, and backward ellipsis is based on this constituent structure. Contrastive stress, however, may overwrite the usual mapping of the syntactic structure to the prosodic structure. For example, contrastive stress is placed on the modifier constituent of a certain structure, but the lexical head of the structure and with it the verb phrase is ellipted. According to the data in (38) (41), the unit to the left, immediately adjacent to the domain of backward ellipsis is minimally a phonological word and maximally a phrase containing an eradicating stress.

It is an important condition that in the elliptic clause the contrastive element interrupting phrasal structure can be followed only by the domain subject to ellipsis. In respect of phonological form this means that the contrastively stressed unit must be adjacent to the coordinating conjunction, or if that is inside the right clause then to the beginning of that clause:

[5] In the sense of Kiefer (2000, 520), a phonological word is the largest linguistic unit within the scope of non-automatic phonological rules. (Non-automatic phonological rules are sensitive not only to phonological but also to morphological information.) A compound word, for example, is not a phonological word, but its component parts are. For this reason grammatical ellipsis in compound words in most cases can only be directed backwards, and requires a stress pattern similar to that within clauses. For example, *AJTÓ|~~zár~~|# vagy KAPUzár* 'door [lock] or gate lock', but **AJTÓzár# vagy KAPU|~~zár~~|*; *ARANY|~~féle~~|# vagy EZÜSTféle* '[kind of] gold or kind of silver', but **ARANYféle# vagy EZÜST|~~féle~~|* ("#" marks a pause).

(45) (a) Miklós sorolta a SZOCIO[~~lingvisztikai elméleteket~~], András meg előhozta a
M listed the socio[linguistic theories-acc] A and raised the
PSZICHOlingvisztikai elméleteket.
psycholinguistic theories-acc
'Nicholas listed the theories of sociolinguistics and Andrew raised those of psycholinguistics.'

(b) *Miklós sorolta a SZOCIO[~~lingvisztikai elméleteket~~] a plenáris ülésen
M listed the socio[linguistic theories-acc] the plenary session-on,
András meg előhozta a PSZICHOlingvisztikai állításokat a szekcióvitában.
A and raised the psycholinguistic claims-acc the section-discussion-in
'Nicholas listed the sociolinguistic theories at the plenary session and Andrew raised the psycholinguistic claims at the discussion of the section meeting.'

When the structure of the clauses is parallel backward ellipsis and gapping type forward ellipsis, which respects constituent structure, may simultaneously be present within a single coordinated sentence:

(46) Miklós sorolta a SZOCIO[~~lingvisztikai elméleteket~~], András meg [~~sorolta~~] a
M listed the socio[linguistic theories-acc] A and [listed] the
PSZICHOlingvisztikai elméleteket.
psycholinguistic theories-acc
'Nicholas listed the theories of sociolinguistics and Andrew those of psycholinguistics.'

The method of mapping the syntactic structure built up by the constructions of lexical items onto the prosodic structure constitutes the conditions of backward ellipsis, the presence of contrastive intonation is not in itself enough. For example, in (48) contrastive stress is placed of the elements of two modifiers which, because of their lexical features, cannot be semantically contrasted with each other. In such a situation grammatical backward ellipsis cannot be created.

(47) *Az értekezleten János sorolta a KI[~~rúgott embereket~~], Mari meg [~~sorolta~~]
the meeting-on J listed the out[kicked people-acc] M and [listed]
a BErúgott embereket.
the in-kicked people-acc
'At the meeting, John was listing the people who were fired and Mary the people who got drunk.'

The verbal prefixes *ki* 'out' and *be* 'in', as well as the participles *kirúgott* 'fired' and *berúgott* 'got drunk' in the example cannot be contrasted within a larger lexical class, they are independent of each other, and the lack of lexical meaning contrast cannot be changed either by contrastive intonation or by backward ellipsis. If there is a lexical basis for the contrast, backward ellipsis is grammatical:

(48) A kapuban János számolta a BE[~~rohanó embereket~~], Mari meg [~~számolta~~] a
the gate-in J counted the in-running people-acc] M and [counted] the
KIrohanó embereket.
out-running people-acc
'At the gate, John was counting the people running in and Mary those running out.'

In this example the backward ellipsis that follows the contrastive stress breaks the integrity of complex lexical items which contain elements that can be contrasted: *ki* 'out' and *be* 'in' indeed mean opposite directions.

2.11. Adjacency is obligatory in backward ellipsis

Forward VP ellipsis is possible between nonadjacent clauses, provided that the sandwiched clause does not contain a potential licenser. In backward VP ellipsis the clauses containing the licenser and the licensee must be adjacent. (50), involving backward ellipsis, is ungrammatical.

(49) A nagymama az UNOKÁJÁTÓL akart segítséget kérni, ugyanis az árvíz
the grandmother the grandchild-her-from wanted help-acc ask-inf since the flood
már a ház felé közeledett, a nagypapa meg a LÁNYÁTÓL
already the house towards approached the grandfather and the daughter-his-from
[~~akart segítséget kérni~~].
[wanted help-acc ask-inf]
'The grandmother wanted to ask for her grandchild's help since the flood was already approaching the house, whereas the grandfather wanted to ask for his daughter's help.'

(50) *A nagymama az UNOKÁJÁTÓL [~~akart segítséget kérni~~], ugyanis az árvíz
the grandmother the grandchild-her-from [wanted help-acc ask-inf] since the flood
már a ház felé közeledett, a nagypapa meg a LÁNYÁTÓL akart
already the house towards approached the grandfather and the daughter-his-from wanted
segítséget kérni.
help-acc ask-inf

The backward direction of ellipsis contradicts the forward direction of antecedent pronoun binding in coordinated clauses. Therefore the licensing conditions of ellipsis on surface word order are more restricted: strict adjacency and parallelism are both required. The necessity of having parallel structures in the clauses and their being adjacent are thus a consequence of the backward direction of ellipsis. In the case of forward ellipsis, however, the non-obligatoriness of the parallelism of clause structures and their "separability" are related to the direction of the ellipsis, which agrees with the forward direction of antecedent pronoun binding.

On backward ellipses, which decompose phrase structure, the following conditions have so far been established:

(i) the beginning of the domain subject to ellipsis and the licensing domain are marked by lexical items which are of the same category but are not the same lexical items;

(ii) the unit forming the boundary of ellipsis is (minimally) a stressed phonological word which is followed by a pause and has a counterpart in the licensing clause. The members of the pair are in identical sequential position in the clauses. An empirical symptom of this fact is coordinability within one clause, in a single endocentric structure, of such pairs, cf.:

(28) (a) János kiválasztotta (a tízbetűs szavakat és a húszbetűs szavakat).
'John selected the ten-letter words and the twenty-letter words.'

(b) Mari (pénz nélkül és fedezet nélkül) vásárolt.
M money without and funds without shopped
'Mary was shopping without money and funds.'

(iii) the structures of the clause containing the ellipsis and the licensing clause must be perfectly parallel and have to be strictly adjacent.

3. The interaction of lexical selection and the elliptic structure

3.1. The asymmetry of the licensing of ellipsis

According to Wilder (1997), there is an asymmetry in the licensing levels of ellipsis: while the principles providing for the licensing of forward ellipsis are operative at the level of Logical Form, those providing for the licensing of backward ellipsis are active in the Phonetic Form. Wilder claims that backward ellipsis is the result of deletion licensed at the PF level. Traces, which are part of the syntactic representation do not interrupt backward ellipsis because they are "invisible" at the PF level:

(29) Mary melyik popsztárnak$_i$ árusította |t$_i$ képeit|, Péter pedig melyik
M which pop-star-poss sold |the t pictures-his-acc| P and which
politikusnak$_m$ vette meg a t$_m$ képeit?
politician-poss bought perf the t pictures-his-acc
'Which pop star was Mary selling and which politician did Peter buy the pictures of?'

The traces t_i and t_m are traces after focussing, the noun phrase *képeit* is bound by different constituents in the two clauses, they are thus not coreferential.

The grammaticality of forward ellipsis is spoiled by the traces located in the domain of ellipsis:

(53)*Mari melyik popsztárnak$_i$ árusította a t_i képeit, Péter pedig melyik
M which pop-star-poss sold the t pictures-his-acc P and which
politikusnak$_m$ vette meg [~~a t_m képeit~~]?
politician-poss bought perf [the t pictures-his-acc].

In the case of forward ellipsis Wilder's proposal presupposes the application of the distributed or split lexicon model (Halle Marantz 1993; Cardinaletti Starke 1995).

3.2. The option of the non-insertion of the phonological form

We propose that forward and backward ellipsis should both be regarded as the non-insertion of the phonological form under the terminal nodes of fully specified lexical grammatical feature matrices. This representation is interpretable for the LF component.[6] It seems advantageous to assume a uniform framework for forward and backward ellipsis.

In the model of the distributed lexicon one class of information is represented by the ⟨Syn, Sem⟩ feature sets, which contain all the grammatical features of the given lexical items, but not its phonological form. The ⟨Pho⟩ features are stored in a separate sublexicon. It is the ⟨Syn, Sem⟩ feature batches of lexical items that participate in the construction of sentence structure. The ⟨Pho⟩ features of lexical items are inserted under the terminal nodes of the representation of the sentence structure after its "completion", in the

[6] Such an assumption may appear to cause difficulties, inasmuch as right-to-left interpretational dependence is considered an anomaly in a derivational grammar. The interpretation of backward ellipsis in LF, as well as the cases where a phrase appears in a lower position in LF than in PF are examples of this. The phenomena traditionally subsumed under the label "reconstruction effects" exemplify the case under discussion, namely, an anaphor moves into a higher position than its antecedent and in the meanwhile leaves a trace in an A-position c-commanded by its antecedent. Brody (1999) argues that explanations of reconstruction which separate the quantifier from the expression linked to it in LF have empirical and theoretical drawbacks and that there is no need for the notions of reconstruction, movement, copies or the separation of quantifying expressions. Since the aim of the present paper is not accounting for backward ellipsis in the framework of the components of an explicitly derivational theory of grammar, we do not regard the above as a fatal difficulty.

output. The representation obtained by the insertion of the feature batches of the phonological form is the input of Phonetic Form, which interprets the phonological features. The interpretation of the semantic features of structural units happens at the level of Logical Form. If (the construction of) some lexical item is marked by a feature for forward ellipsis, this has a double role: on the one hand it blocks the insertion of the phonological features of the item (there emerges an "absence" of phonological form), on the other hand it marks the unit as being interpretationally dependent on another unit at the level of LF.

In the case of lexical items and their constructions comprising ⟨Syn, Sem⟩ feature sets, which build up (project) the structure of the sentence and in which all relevant structure building steps have occurred, but to which the insertion of ⟨Pho⟩ features **fails to happen**, ellipsis emerges. The Phonetic Form component of the grammar detects a deficiency. On the other side, the Logical Form component considers the same lexical items as ones which are interpretationally dependent. Ellipsis accordingly does not involve either "empty" structures, or domains to be reconstructed or copied, since, except for the ⟨Pho⟩ features, which are not inserted, the relevant lexical grammatical feature bundles **are present** throughout the grammatical derivation or the construction of the structure's representation.

"Late" insertion of the phonological form is an option in the framework of the "distributed" lexicon. In principle it can **always be considered** whether the post-syntactic insertion of the phonological form should happen or not. The condition is that the non-inserted phonological form must be precisely identifiable on the basis of the licensing constituent. In this way it is possible to interpret both forward and backward ellipsis as the non-insertion of phonological form.

3.3. Ellipsis: specimens of the same lexical item multiply selected from the lexicon

If the same lexical item is selected from the lexicon more that once, the selected specimens are identical or non-distinguishable from each other. In approaching their relation to ellipsis there exist two basic types of opinion. According to one the reconstruction of the elliptic clause takes place in the Logical Form component of the grammar or at the level of the semantic representation, based on the superficial structure of the clause (cf. Fiengo May 1994; Hornstein 1995; Kitagawa 1991; Reinhart 1983; Sag 1976; Williams 1977).

In the Minimalist framework, on the other hand, the view is that structures with VP ellipsis are derived from coordinated structures (cf. Chomsky 1995; Chomsky Lasnik 1993). According to this view, the VP of one of the clauses is deleted at the level of PF. In the framework of the Minimalist Program (Chomsky 1995) structures with VP ellipsis are derived in a way analogous (but not identical) to movement. Structures containing VP ellipsis come into being as a coordinated structure. The VP of the second coordinated constituent behaves as if it were a "copy", the only difference being that in this case the copy is not created by movement. The copy in the second clause is deleted in PF, if it is **identical** to the VP of the first clause, but the copy is interpreted in LF, thus a structure with VP ellipsis is produced.

The members of coordinated VP ellipsis, however, differ from copies in another respect as well, namely, that strict identity is not required between the licensing VP and the VP subject to ellipsis. Verbs, for example, participate in local person/number agreement and may differ in other grammatical features too. We think that these differences are possible because VP ellipsis is not produced by copying, instead both coordinated clauses are generated "in their own right" and they **also** contain lexical items which they both share. These lexical items **are multiply selected from the lexicon**. We wish to characterize the creation of structures with VP ellipsis by multiply selected specimens of lexical items.

3.4. Parallelism effects: in backward ellipsis only a sloppy identity interpretation of pronouns is allowed

While forward ellipsis allows both the strict and the sloppy identity interpretation of pronouns (cf. (54)), backward ellipsis only allows a sloppy identity interpretation (cf. (55)).

(54) Jánosj REGGEL vitte le sétálni a $pro_{j/*k}$ kutyáját, Ferik meg ESTE
J morning took down walk-inf the dog-his-acc F and evening
~~[vitte le sétálni a $pro_{j/k}$ kutyáját]~~.
[took down walk-inf the dog-his-acc]
'John walked his dog in the morning and Frank in the evening.'

(55) Jánosj REGGEL ~~[vitte le sétálni a $pro_{j/*k}$ kutyáját]~~, Ferik meg ESTE vitte le
J morning [took down walk-inf the dog-his-acc] F and evening took down
sétálni a $pro_{k/*j}$ kutyáját.
walk-inf the dog-his-acc
'John walked his dog in the morning and Frank in the evening.'

The variant in (54) allows the sloppy identity of the pronoun (*pro* is first coindexed with *János*, then with *Feri*) and also allows the interpretation that Frank did not walk his own but John's dog, that is, the strict identity of the pronoun (*pro* is coindexed with *János* in both cases). Backward ellipsis in (55), however, only allows sloppy identity (both Frank and John walked their own dog). Thus some version of structural **and** referential parallelism holds for the domains of ellipsis.

3.5. Parallelism constraints

Some form of the parallelism constraint (e.g., Chomsky–Lasnik 1993; Chomsky 1995; Fiengo–May 1994; Fox 1998) is to be applied to all structures containing VP ellipsis, irrespective of whether they involve pronouns or not. Fiengo and May (1994) formulate the parallelism constraint in a framework where NPs are supplied not only with indices but also with pointers, α or β. These pointers determine the **dependent** or **independent** relationship of the given NP with the other NPs in the clause. The index of an NP which is independent of other occurrences is called the **α-occurrence** of the index; the index of an NP which depends on another occurrence is called the **β-occurrence** of the index. "Independent" pronouns[7] bound clause-externally and referential NPs may be accompanied by stress and/or deixis; dependent pronouns bound within their clause, however, may not. Pronouns with the β-occurrence of an index are interpreted as bound variables (in the case of sloppy interpretation the pronoun is treated as a bound variable), whereas pronouns with the α-occurrence of an index are referential, that is, they are bound clause-externally or are deictic. Based on Fiengo–May (1994), then, the referential or bound status of pronouns between VP ellipsis and the licensing domain in coordinated clauses can be expressed as follows:

[7] A pronoun can have an antecedent within its own clause, e.g., *János nevetett a(z ő) viccén és Péter is nevetett a(z ő) viccén* (J laughed the (he) joke-his-on and P also laughed the (he) joke-his-on) 'John laughed at his joke and Peter also laughed at his joke'. In this sentence it is the larger NP (*az ő viccén*) that counts as a local domain in terms of Principle B. Since within this NP the pronoun is free, its referent may agree with that of a coindexed NP located higher and c-commanding it, like *János* or *Péter*. If the *ő* of the second clause receives a sloppy interpretation, it is not *János* but *Péter* that binds it and it is considered a bound variable.

(56) If an occurrence of an index is independent, an α-occurrence, "copy" the occurrence itself, if the occurrence is dependent, a β-occurrence, "copy" the dependency.
(Fiengo May 1994, 149)

Fox (1998) proposes a parallelism constraint in a similar vein:

(57) NPs in the elided and antecedent VP must either
(a) have the same referential value (= referential parallelism)
(b) be linked by identical dependencies (structural parallelism)

Below, we are going to apply Fox's terminology. Instead of the terms *dependent* and *independent pronoun* we are going to use the terms (pronoun equivalent to a) *bound* variable and *referential pronoun* (clause-externally bound or deictic pronouns), respectively. The constraints, accordingly, may be formulated as follows:

(58) Parallelism constraints
(a) The NPs involved in an elliptic VP and a VP licensing ellipsis uniformly have to be either bound variables or referential pronouns (**structural parallelism**).
(b) If the pronouns are referential pronouns, they have to refer to the same referent (**referential parallelism**).

3.6. Structural parellelism

We assume that the structural parallelism constraint is part of the syntactic/computational component of grammar. (In contrast, referential parallelism can be influenced and therefore in certain cases the constraint can be violated.) Let us examine the following examples of structural parallelism:

(59) (a) A sminkszobában az ÉNEKESNŐ$_k$ fésülte meg a(z $\ddot{o}_k^3$) haját,
the makeup-room-in the singer combed perf the (she) hair-her-acc
a stúdióban meg a RIPORTER$_i$ [~~fésülte meg a(z $\ddot{o}_i^3$) haját~~].
the studio-in and the reporter [combed perf the (he) hair-his-acc]
'The singer combed her hair in the makeup room and the reported did so in the studio.'

(b) A sminkszobában az ÉNEKESNŐ$_k$ [~~fésülte meg a(z $\ddot{o}_k^3$) haját~~],
the makeup-room-in the singer [combed perf the (she) hair-her-acc]
a stúdióban meg a RIPORTER$_i$ fésülte meg a(z $\ddot{o}_i^3$) haját.
the studio-in and the reporter combed perf the (he) hair-his-acc

(59a) and (59b) are grammatical in the sloppy interpretation, according to which the singer and the reporter were combing their own hair. In the in-

terpretation shown in (59) the pronouns are bound variables in both clauses, structural parallelism holds.

Structural parallelism excludes the interpretation in which the singer was combing her own hair, while the reporter was combing **somebody else's** (and not his own) hair, cf. (60). In the case of such an interpretation the pronoun in the first clause is a bound variable, the pronoun in the elliptic clause, however, is a referential pronoun, as shown by the superscript indices in (60a) below. Such a structure is also ungrammatical without ellipsis, even if the pronoun in the second clause is stressed, as shown by (60b). Since in a model comprising the non-insertion of phonological forms (60b) underlies (60a), the ungrammaticality of (60b) entails the ungrammaticality of (60a).

(60) (a) *A sminkszobában az ÉNEKESNŐ$_k$ fésülte meg a(z ő^3_k) haját, a
the makeup-room-in the singer combed perf the (she) hair-her-acc the
stúdióban meg a RIPORTER$_i$ |~~fésülte meg a(z ő^z_m) haját~~|.
studio-in and the reporter |combed perf the (he) hair-his-acc|
'The singer combed her hair in the makeup room and the reported did so in the studio.'

(b) *A sminkszobában az ÉNEKESNŐ$_k$ fésülte meg a(z ő^3_k) haját, a
the makeup-room-in the singer combed perf the (she) hair-her-acc the
stúdióban meg a RIPORTER$_i$ fésülte meg az Ő^z_m haját.
studio-in and the reporter combed perf the his hair-his-acc
'The singer combed her hair in the makeup room and the reported combed somebody else's hair.'

Thus structural parallelism achieves that all the pronouns in all of the coordinated constituents be either bound variables or referential pronouns (unbound within their clause). "Mixed" interpretations in which the pronoun is a bound variable in one of the coordinated constituents but a referential pronoun in the other are not allowed.

3.7. Referential parallelism

Referential parallelism requires that the referent of the pronouns contained in the licensing and the ellipted VPs be identical. Pronouns are sure to abide by the referential parallelism constraint if their stress is reduced or they are subject to ellipsis:

(61) (a) Reggel a MATRÓZ$_m$ [~~szólt neki$_j^z$~~], és este a KORMÁNYOS$_k$
morning the sailor [spoke for-him] and evening the helmsman
szólt neki$_j^z$.
spoke for-him
'The sailor spoke to him in the morning and the helmsman in the evening.'

(b) Reggel a MATRÓZ$_m$ szólt neki$_j^z$, és este a KORMÁNYOS$_k$
morning the sailor spoke for-him and evening the helmsman
[~~szólt neki$_j^z$~~].
[spoke for-him]
'The sailor spoke to him in the morning and the helmsman in the evening.'

(c) Reggel a MATRÓZ$_m$ szólt neki$_j^z$, és este a KORMÁNYOS$_k$
morning the sailor spoke for-him and evening the helmsman
szólt neki$_j^z$.
spoke for-him
'The sailor spoke to him in the morning and the helmsman spoke to him in the evening.'

(d) Reggel a MATRÓZ$_m$ szólt NEKI$_j^z$, és este a KORMÁNYOS$_k$
morning the sailor spoke for-him and evening the helmsman
szólt neki$_j^z$.
spoke for-him
'The sailor spoke to HIM in the morning and the helmsman spoke to him in the evening.'

The sentences have several possible interpretations. Their preferred interpretations, nevertheless, obey the referential parallelism constraint, according to which the sailor and the helmsman spoke to the same third party, in (61c) the preferred interpretation is that this is a deictic third person. The elliptic clause and the clause containing the pronoun with reduced stress behave identically in respect of the constraint. None of the sentences may have the interpretation that the sailor spoke to a **third person** and the helmsman to a **fourth person**. This interpretation is only possible if the clauses do not have falling intonation but end in a constituent with eradicating stress, since in this case the clause-final pronoun receives strong stress:

(61) (e) Reggel a MATRÓZ$_m$ szólt NEKI$_j^z$, és este a KORMÁNYOS$_k$
morning the sailor spoke for-him and evening the helmsman
szólt NEKI$_n^x$.
spoke for-him
'The sailor spoke to HIM in the morning and the helmsman spoke to HIM in the evening.'

The sentence in (61e), which does not contain ellipsis, has an interpretation with non-parallel reference, in which the sailor spoke to a third, and the helmsman to a fourth person. Thus elliptic clauses and verb phrases containing a

pronoun with reduced stress belong to the same class in respect of this constraint, and in contrast to clauses ending in eradicating stress. At the same time, all the sentences of (61) uniformly satisfy the structural parallelism constraint. This suggests that the success of structural parallelism does not depend on the distribution of stresses.

3.8. The indices of multiple selection from the lexicon and the creation of ellipsis

3.8.1. According to Chomsky (1995), the construction of the representation of the structure of a sentence begins with the "enumeration" of lexical items, this supplies the syntactic input. We conceive of the creation of structures with VP ellipsis as the multiple selection from the lexicon of the lexical items relevant for the licensing and execution of ellipsis and enumerating them at the syntactic input in such a way that they can satisfy the constraints of structural and referential parallelism. It is in this case that the option of not inserting the phonological form may be chosen.

The enumeration of lexical items basically means the drawing up of a list in which each item carries some mark, for example, indices or numbers. These may identify the step in the selection process itself. They may also refer to whether the enumerating system has selected the given lexical item as identical to a previously selected lexical item (identical specimens), or it does not distinguish the given lexical item from a previously selected specimen (non-distinct specimens), or, as a matter of fact, the lexical item selected is classified as distinct.

The difference between being non-distinct and identical carries structural and lexical relevance as well. The basis of forward ellipsis is provided by the selection of the lexical items as non-distinct from each other. This weaker version of identity underlies pronominal binding. In (62), for example, *Mari* and *ő* are lexically not identical, but in the sentence they are not distinct:[8]

[8] We have seen that forward ellipsis is supported by antecedent anaphor relationships, the structures of the clauses are not necessarily parallel and they do not have to be adjacent. The opposite is true of backward ellipsis, which is based on the selection of the same lexical items as identical: backward ellipsis is not compatible with an antecedent relationship affecting its domain, the clauses have to be adjacent and of parallel structures.

(62) (a) Ma JÁNOS mondta, hogy Péternek tetszik Mari, tegnap meg MARI$_j$ is
today J said that P-for is-pleasing M yesterday and M also
mondta|, ~~hogy Péternek tetszik ő$_j$~~|.
said |that P-for is-pleasing **she**|
'Today John said that Peter likes Mary, and yesterday Mary also said so.'

(b) *Ma JÁNOS mondta, hogy Péternek tetszik Mari, tegnap meg MARI$_j$ is
today J said that P-for is-pleasing M yesterday and M also
mondta, |~~hogy Péternek tetszik Mari$_j$~~|.
said |that P-for is-pleasing **M**|

The question is which features determine whether multiply selected lexical items are identical or non-distinct specimens. We saw in section **2.5.** that verbs subject to ellipsis and verbs licensing it must be identical only in respect of the V + Tense complex. Agreement suffixes are locally licensed within the clause, the two verbs in the two clauses may differ in their person/number and object definiteness inflexion. Therefore, the lexical selection of identical or non-distinct specimens of a given verb means the multiple selection of **identical verb stem + tense morpheme**.

The parallelism constraints (sections **3.5.–3.7.**) suggested that the nominal structures involved in VPs containing and VPs licensing ellipsis have to participate in dependencies of an identical type (structural parallelism constraint). In addition, if structural dependencies do not exclude it, they have to carry the same referential values (referential parallelism constraint). The lexical selection of identical or non-distinct specimens of nominal (not verbal) lexical items licensing ellipsis and falling within the domain of ellipsis means identity in respect of the inherent features of the lexical items under discussion and identity in respect of those dependency relations which the specimens selected will participate in. The criterion of participating in identical dependencies during multiple lexical selection of words, of course, may not advance the specific values of inherent features (e.g., case features). The criterion only requires that multiply selected, identical or non-distinct specimens be labelled that they will participate in dependency relations of an identical type, whatever it will be. It follows from this that during the construction of the representation of sentence structure, when a dependency relation in which one of the selected specimens is involved receives a specific value, it is also decided that – provided that the representation is grammatical – the other selected specimen in the other clause must also be involved in the same dependency relation.

These two principles allow, on the one hand, that there exist non-identical morphemes in the enumeration (person/number features local in the clauses), and, on the other hand, create the conditions for the possibility that non-

inherent features (e.g., case features) which guarantee the isomorphous arrangement of the arguments in the clauses be identical.[9]

3.8.2. The syntactic input of coordinated clauses is provided by a list of lexical items. If the system is to produce the VPs of the coordinated clauses in (62a–e) above, two lists of lexical items are needed. The specimens of certain lexical items (the concatenation of which will constitute the VP) have to get on both lists. Accordingly, these lexical items will be selected from the lexicon twice. Each lexical item is individually marked by the selection process (by the serial of the selection, for example). Thus multiple selection in itself does not result in elliptability. The two VPs may contain multiply selected specimens of the same lexical items, but these will necessarily be labelled by different selectional indexes in the two lists. The system arranging lexical selection makes ellipsis possible by changing back the selectional markings on the lexical items of the VP in the second coordinated clause to those of the VP in the first clause. Thus the same lexical items are multiply selected as identical specimens, the constraint of structural parallelism is applicable to them, and the first selection may be furnished with the property of elliptability.

The multiple selection of the same lexical item as an identical item with changing back the index of the later selection to that of the earlier one is only possible among the members of two successive enumeration lists. It is necessary for the rewriting of the indexes that there be no "intermediate" lists. This serves as the basis of backward ellipsis of the type in (62a).

The rewriting of the lexical selectional indices according to an earlier selection is possible in the case of any word which is at least a phonological word. We have seen that the domain of backward ellipsis contains words as the components of phonological phrases following the contrastive intonation pattern. These may partly coincide with the syntactic constituent structure.

3.8.3. There exists another possibility: the multiple selection of the same lexical items such that the selected specimens are not distinct from each other. The system arranging lexical selection can determine this by assigning the selectional index to the lexical items when they are first selected, but blocking selectional indexing when the same lexical items are selected again, thus making the latter selection non-distinguishable from the first. In this case the

[9] This excludes the production of non-parallel, non-isomorphous sentences based on identical lexical items, e.g., **Reggel ÉN hallottam, hogy Péter mesél Mariról, este pedig MISI [~~hallotta, hogy Mari mesél Péterről~~]* (morning I heard that P talks M-about evening and M [heard that M talks P-about]).

same lexical items will be multiply selected as a non-distinct specimen, the constraint of structural parallelism will be applicable to them, and the second selection may be furnished with the property of elliptability.

The multiple selection of the same lexical item as a non-distinct item with the blocking of later selectional indexing and leaving earlier indices intact is also possible of two, not necessarily successive lists. This serves as a basis of forward ellipsis of the type in (62b). The blocking of selectional indices is only possible in groups of lexical items that are capable of mapping phrasal structure. Indeed, it is phrase structures that fall in the domain of forward ellipsis.

The only difference between the coordinated structures of the type in (62c d), containing a pronoun with reduced stress in their second clause and the type in (62a-b) is that in the former the option of not inserting the phonological form is not chosen. But it is not obligatory to choose this option. In the given circumstances ellipsis is an optional operation. Conversely, a choice must be made between options (62a) and (62b) on the one hand, and (62c) and (62d) on the other. It is impossible to mark one of the elliptable lexical items for the blocking of the phonological form, and not to mark the other. Either all elliptable items have to be marked for ellipsis, or none of them.

In the case of the sentence in (62e) when enumerating lexical items for the syntactic input there exist occurrences in the list being prepared where the same lexical item is selected twice from the lexicon. Each selectional operation associates indices with the selected specimen. Upon multiply selecting the same lexical item, this time the system arranging lexical selection keeps the different selectional indices. Thus the same lexical items are selected as non-identical specimens. Structural parallelism is not obligatory. These lexical items may not be assigned the property of being elliptable.

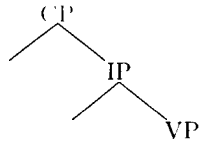
To sum up: if at the input of the construction of the structure of a given sentence there are occurrences among the enumerated lexical items according to which the same lexical items are selected as identical or non-distiguished specimens by the system, then ellipsis is possible. If at the enumeration the same lexical items were not selected as identical specimens by the system, ellipsis is not possible.

3.9. The selectional indices of lexical items and the left periphery of the sentence

3.9.1. The conditions of ellipsis involve not only the domain subject to ellipsis, but also the structures at the boundaries of this domain: the constituents with

eradicating stress in operator position. According to the Minimalist Program the extended projection of the verb above the VP includes two domains: the I domain located immediately above the VP and the C domain above the IP. This is shown in (63).

(63)



The I domain is an extension of the V domain: the various functional heads are in relationship with the verb, since it is the verb that is attracted for the checking of morphosyntactic specifications, and it is the I domain that contains the functional projections (tense, mood, aspect, etc.) pertaining to the various universal grammatical categories expressed by the verb. The I domain is embedded under the CP. The head of this projection is the complementizer. CP is considered to be the target position of the elements located in the left periphery. The relationship of the C and the I domains is different from that of the I and the VP domains. Whatever inflexional properties are mirrored by the C domain, these are not encoded in the verbal morphology. In the framework of the Minimalist Program it is often overt, "visible" movement that leads to the C domain.

The elements of the C domain express the type of the sentence (indicative, interrogative, imperative), furthermore, they reflect certain features of the structure of the verb in the sentence (finiteness), functions connected to the surrounding discourse, like known and novel information, topic and comment, focus and its presupposition, as well as possibly containing quantifying expressions (Rizzi 1997, 283).

3.9.2. There is an interaction between the difference in the type of grammatical information contained in the C and I domains, the indices of lexical selection and elliptability. We encounter the following connections between the selectional indices of the lexical items and their structure. In coordinated structures involving VP ellipsis the lexical items selected from the lexicon as distinct specimens get into the C domain, while the specimens of the same items selected as identical or non-distinct specimens get into the I domain.

As regards the lists created by the enumeration of lexical items at the input of the construction of the structure of a sentence:

(i) if there exist lists in which the same lexical items are multiply selected as identical or non-distinct specimens, but at the same time there are non-identical lexical items on the list selected only once, then there will be minimally one (maximally an unlimited number of) lexical item to the selectional markings of which the system adds the index *distinct*. That is, the multiple selection of the same lexical item as an identical, non-distinct specimen **requires** the selection of at least one lexical item as a distinct specimen at the syntactic input, in the enumeration. The *distinct* item(s) is/are foregrounded and emphasized in comparison with other lexical items in the enumeration lists. If the lists involve selections in which the lexical item is indexed as *distinct*, these contrast with each other. The substantial criteria of assigning the index *distinct* depend on the conceptual system in cooperation with the mental lexicon.

(ii) The C domain of the sentence structure must be occupied by singly selected lexical items indexed as *distinct* in the lists and the same lexical items multiply selected as identical specimens remain in the I domain of the structure.

(iii) The lexical items occupying the C domain **may** be subject to structural parallelism constraints which do not require referential parallelism.

(iv) Of the selections of the same lexical item as an **identical** specimen the **first selection** can be assigned the property of being elliptable. The condition is that there be more than two lexical items in the two relevant enumerated lists which receive the mark distinct at the lexical selection and that structural parallelism prevail in the C domain.

(v) Of the **non-distinct** selections of the same lexical item the **non-first** may be assigned the property of being elliptable. The condition is that there be at least two lexical items in the two relevant enumerated lists which receive the mark *distinct* at the lexical selection. Structural parallelism in the C domain is not required.

The mechanisms and principles assumed exhibit properties similar to those of foregrounding and backgrounding, which has both lexical and structural relevance. They also express the intuition that in coordinated structures/sentences the distributions relevant for ellipsis are determined by the method of lexical selection.

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SEMANTIC LICENSING OF VP-ELLIPSIS*

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Abstract

The paper investigates VP-ellipsis in coordinate structures in Hungarian displaying no form-identity between the antecedent and the elided verbs. It defends the view that a well-defined subset of such instances of ellipsis, i.e., those involving morphologically related verbs connected by systematic semantic relations, is not based on semantic or pragmatic inference strategies but on regularities encodable in the lexical representation of the relevant verbs in terms of meaning postulates. The paper identifies four classes of such meaning postulates for Hungarian, which state equivalence or entailment relations between propositions containing morphologically related verbs or different senses of the same verb appearing in different argument structures.

1. Introduction

The aim of this paper is to investigate the licensing conditions of instances of forward VP-ellipsis in Hungarian where no strict form-identity holds between the antecedent and the elided VPs, illustrated in (1) below.

(1) Viki és Gabi szeretnének összeházasodni, de Gabi nem mer
Vic and Gaby like-cond-3pl marry-inf but Gaby not dare-3sg
[VP ~~összeházasodni Vikivel~~], mert az apja utálja Vikit.
marry-inf Vic-with because the father-poss hates Vic-acc
'Vic and Gaby would like to get married, but Gaby does not dare to [~~marry Vic~~], since her father hates Vic.'

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In (1), the elided VP, *összeházasodni Vikivel* 'marry-inf Vic-with' and its antecedent, *összeházasodni* 'marry-inf' do not manifest any kind of syntactic identity, no matter what level of syntax (surface structure, Logical Form, etc.) is considered. The interpretation of such structures has traditionally been assumed to involve some semantically (or pragmatically) based reasoning procedure called semantic (pragmatic) bridging. We wish to show here, however, that there is a class of verbs involved in VP-ellipsis where the relation between the elided constituents and their antecedents is more systematic than what is usually accounted for by general semantic and pragmatic procedures, and it is shared by a well-defined class of verbs in the language with certain common semantic properties. In other words, we will show that the ellipsis licensing potential of VPs can be based on lexical information, and thus can be formalized and accounted for within grammar proper. The approach is supported by the fact that in the elliptical sentences to be considered here the number of VPs which can legitimately be reconstructed onto the ellipsis site is usually very limited, only one or two, which would not be expected if their licensing was based on pragmatic principles.

The systematic meaning relations giving rise to ellipsis will be formalized in terms of meaning postulates, which describe meaning equivalences or entailments between propositions expressed by sentences containing particular lexical items. The ability of meaning postulates to license particular instances of VP-ellipsis will be shown to depend on the type of the ellipsis (whether it is backwards or forward ellipsis), and on morphological and syntactic factors. The data and the analysis will give support to the claim made by Bánréti (1999; 2000) and Bartos (2000), according to which the mental lexicon consists of sublexicons with their own, sometimes independent, phonological, syntactic and semantic principles.

2. Data: VP-ellipsis in coordinate structures

In this paper, we will concentrate only on instances of VP-ellipsis occurring in coordinate structures. By forward ellipsis we refer to those cases where the ellipsis site appears in a non-initial conjunct, and it is preceded by its antecedent. Conversely, the term backwards ellipsis will be used to refer to those cases where the ellipsis site appears in a non-final conjunct, and it is followed by its antecedent.

The first set of data contains licit forward VP-ellipsis without form- and content-identity between the antecedent and the elided material, as shown

in (1), repeated with minor changes here in (2). The example also indicates the impossibility to reconstruct the antecedent VP *összeházasodni* 'marry-inf' onto the ellipsis site, since the argument structure required by this verb should contain either a plural argument (subject), or two arguments, which is not fulfilled in the second clause of the sentence.

(2) Viki és Gabi szeretnének összeházasodni, de Gabi nem mer *[VP ~~összeházasodni~~]/
Vic and Gaby like-cond-3pl marry-inf but Gaby not dare-3sg marry-inf
[VP ~~összeházasodni Vikivel~~], mert az apja utálja Vikit.
marry-inf Vic-with because the father-poss hates Vic-acc
'Vic and Gaby would like to get married, but Gaby does not dare to [~~marry~~]/[~~marry Vic~~], since her father hates Vic.'

Note that in the English translation of the above example, both the bare verb and the VP consisting of the verb and object complex can be considered as the target of ellipsis, since the verb *marry* can appear in English together with only one singular argument NP in a well-formed sentence. In (2) above, the embedded proposition containing the elided material, 'Gaby marries Vic' is entailed by the proposition containing the antecedent, 'Vic marries Gaby'. The existence of such an entailment relation will have a central role in our account of the licensing procedure, to be presented below.

The elided material in (3) below cannot be formally identical to the antecedent VP, either, due to both the semantic incompatibility of the subject of the second clause with the antecedent VP, and to the fact that such a structure would violate principle C of the Binding Theory.

(3) Vili szeretne táncolni Marival, de Mari nem szeretne
Bill like-cond-3sg dance-inf Mary-with but Mary not like-cond-3sg
*[VP ~~táncolni Marival~~]/ [VP ~~táncolni~~]/[VP ~~táncolni Vilivel~~].
dance-inf Mary-with dance-inf dance-inf Bill-with
'Bill would like to dance with Mary but Mary wouldn't like to *[~~dance with Mary~~]/[~~dance~~]/[~~dance with Bill~~].'

The two possible VPs which can appear on the ellipsis site in (3) satisfy the following characteristics. The embedded proposition expressed by them and their subject either has to be entailed by the one expressed by the antecedent VP and its subject, *Bill dances with Mary*, or has to be logically equivalent to it. The first option is satisfied by the VP *táncolni* 'dance-inf', which contributes to the proposition *Bill dances*, while the second option is satisfied by the VP

táncolni Vilivel 'dance-inf Bill-with', contributing in the required sense to the proposition *Mary dances with Bill.*

As opposed to the above cases, backwards ellipsis requires full (phonological) identity between the elided VP and its antecedent, as examples (4) (8) below indicate.

(4) *Mari nem szeretne [$_{VP}$ ~~Vilivel táncolni~~]/[$_{VP}$ ~~táncolni~~], de Vili szeretne
Mary not like-cond-3sg Bill-with dance-inf dance-inf but Bill like-cond-3sg
Marival táncolni.
Mary-with dance-inf
*'Mary would not like to [~~dance with Bill~~]/[~~dance~~], but Bill would like to dance with Mary.'

(5) *Mari nem [$_{VP}$ ~~táncolhat Vilivel~~]/[$_{VP}$ ~~táncolhat~~], de Vili táncolhat Marival.
Mary not dance-can Bill-with dance-can but Bill dance-can Mary-with
*'Mary can't [~~dance with Bill~~]/[~~dance~~], but Bill can dance with Mary.'

(6) Mari nem szeretne [$_{VP}$ ~~Vilivel táncolni~~], és Kati sem szeretne
Mary not like-cond-3sg Bill-with dance-inf and Kate neither like-cond-3sg
Vilivel táncolni.
Bill-with dance-inf
'Mary would not like to [~~dance with Bill~~], and Kate would not like to dance with Bill, either.'

(7) Mari nem [$_{VP}$ ~~táncolhat Vilivel~~], és Kati sem táncolhat Vilivel.
Mary not dance-can Bill-with and Kate neither dance-can Bill-with
'Mary can't [~~dance with Bill~~], and Kate can't dance with Bill, either.'

(8) *Gabi nem mer [$_{VP}$ ~~összeházasodni Vikivel~~], bár Viki és Gabi
Gaby not dare-3sg marry-inf Vic-with though Vic and Gaby
szeretnének összeházasodni.
like-cond-3pl marry-inf
*'Gaby doesn't dare to [~~marry Vic~~], although Vic and Gaby would like to marry.'

The parallelism between (4) (5) and (6) (7) shows that the requirement for phonological identity in backwards ellipsis is not sensitive to the fact whether the ellipsis takes place in an embedded or main clause.

In addition, as (9) and (10) below show, the verbs in the antecedent and elided constituents in backwards ellipsis not only have to be phonologically identical, but they also have to appear in exactly the same argument structure (which means that the corresponding NPs in the two constituents have to refer to individuals bearing the same semantic role).

(9) *Vili szeretne Marival [VP ~~táncolni~~], de Mari nem fog táncolni.
Bill would-like Mary-with dance-inf but Mary not will dance-inf
*'Bill would like [~~to dance~~] with Mary, but Mary won't dance.'

(10)*Vili szeretne Marival [VP ~~táncolni~~], de Mari nem fog vele táncolni.
Bill would-like Mary-with dance-inf but Mary not will he-with dance-inf
*'Bill would like [~~to dance~~] with Mary, but Mary will not dance with him.'

The examples shown in (1) (10) above thus illustrate the following facts. On the one hand, they show that VP ellipsis can be possible even if there is no syntactic identity between the content of the ellipsis site and its antecedent, while, on the other hand, they argue for distinguishing between the processes and the licensing mechanisms operating in the case of backwards versus forward ellipsis. The data supports the claim made by Wilder (1997) and Bartos (2000) that backwards ellipsis is licensed under phonological identity, while the licensing mechanism of forward ellipsis allows for certain degrees of mismatch between antecedent and elided material. (A detailed discussion about the allowed degrees of dissimilarity between antecedent and ellipsis site is found in Bartos 2000; 2001.)

After having introduced the phenomena under investigation, the following section will summarize and point out the difficulties with existing treatments of the cases of ellipsis not explainable by purely syntactic means, illustrated above. In section **4** we will show, following Bartos (2000; 2001) that, in order to make the theory more constrained and to incorporate the restrictions imposed by the grammar on the licensing of VP-ellipsis, the semantic relations regulating ellipsis have to be encoded in the lexicon, and not in LF or the semantic component of the grammar. Section **5** will illustrate certain types of meaning postulates which could be held responsible for ellipsis licensing in Hungarian. The paper ends with the conclusions in section **6.**

3. Semantic and pragmatic accounts of VP-ellipsis

Traditionally, investigations into the process of VP-ellipsis concentrated on finding out on what level of syntax the licensing antecedent and the elided VP can be considered identical (e.g., Sag 1976; Williams 1977; Lappin 1996; Tomioka 1997, etc.), which would justify the elimination of the latter from the structure. Or, in case the generation of phonologically empty elements was allowed, which constituent in the structure can be such that its content is reconstructed onto the ellipsis site. When elliptical sentences without strict

form-identity between antecedent and elided material were brought into the forefront of research, too, the material reconstructed onto the ellipsis site was determined on the basis of semantic or pragmatic reasoning principles. In what follows, we will briefly review Hardt's (1993) pragmatics-based account on the phenomenon, point out some of its weaknesses, and then consider Webber's (1979) semantics-based proposal. The problem with both accounts will turn out to be that they – obviously – will locate the source of ellipsis in a component of the grammar completely different from the one where the "syntactic" cases of ellipsis are accounted for. This kind of solution, unfortunately, ignores important similarities between the two kinds of processes, including the fact that backwards ellipsis requires complete identity in all cases between the antecedent and the ellipsis site, while forward ellipsis does not.

We will eventually argue for using Webber's ideas to specify the meaning relationships characterising the verbs which participate in ellipsis phenomena without syntactic identity, and claim that these regularities can be built into the lexical specification of constituents instead of the semantic component of the grammar or pragmatics.

3.1. Hardt (1993)

Hardt (1993) argues that the meaning of the predicate in the ellipsis target in (11) below is reconstructed in the following steps:

(11) Irv and Martha wanted to dance with each other, but Martha couldn't, because her husband was there.

In accordance with the general assumption that reciprocal expressions apply to a predicate distributively (argued for, for example, by Bennett (1974) and Heim et al. (1991)), the first clause of (11) (the antecedent of the ellipsis) is equivalent to saying that the predicate λx *dance* (x, y) is applied distributively to Irv and Martha. This predicate is available to fill the place of the predicate missing from the second clause, the ellipsis target, where the value of the free variable y is fixed by the context. The fact that there is a salient referent in the context for the parameter y, namely, the person named Irv, makes the sentence acceptable. (11) thus contrasts with the infelicitous sentence (12), where the same predicate, λx *dance* (x, y), would also be available to be reconstructed to the ellipsis site, but there is no salient referent corresponding to Susan's partner, according to Hardt.

(12)*Irv and Martha wanted to dance with each other. Susan couldn't, because her husband was there.

To sum up, Hardt's (1993) proposal rests on two principles. On the one hand, he adopts a theory for the interpretation of reciprocals, while on the other hand he argues that the free variables in the logical representation of a predicate need to have a salient referent, and assigns the task of determining this referent to pragmatics.

However, there seem to be some major problems with the proposal itself, and with the applicability of the proposal for the Hungarian data at hand. First, in spite of Hardt's claim, it seems that the reciprocal predicate in the antecedent does not make a non-reciprocal predicate available for further use, since then the extralinguistic context would be available to determine the value of *y* in the second clause of (12),[1] and thus the sentence would not necessarily be considered ill-formed, as it is now. In view of this fact, I believe that the ill-formedness of (12) should rather be explained by saying that the only predicate which could be applied to Susan on the basis of the preceding text is *dance with each other,* which must have a plural argument.

Furthermore, it is difficult to see why an inference procedure similar to Hardt's cannot connect the predicates λx *dance-with* (*x, Mary*) and λx *dance* (*x*), as would be required for the licensing of the second choice (*táncolni* 'dance-inf') for the elided VP in (13) below.

(13) Vili szeretne Marival táncolni, de Kati nem szeretne
Bill like-cond-3sg Mary-with dance-inf but Kate not like-cond-3sg
[VP ~~Marival táncolni~~]/*[VP ~~táncolni~~]/*[VP ~~Vilivel táncolni~~].
Mary-with dance-inf dance-inf Bill-with dance-inf
'Bill would like to dance with Mary but Kate wouldn't like to [~~dance with Mary~~]/*[~~dance~~]/*[~~dance with Bill~~].'[2]

A further argument against a purely pragmatics-based licensing procedure is that the limits of ellipsis licensing are specified by syntax, as shown in (14) (15) below.

[1] There could be many people in the extralinguistic context who could possibly dance with Susan.

[2] Note that in (3) above the VP consisting of the verb *táncolni* 'dance' alone can appear in the elided VP, while in (13) it cannot. The distinction, as it will be explained in section 4 below, is due to the fact that in the former case the subject of the elided VP is identical to the subject of its antecedent, while in the latter case it is not.

(14) ??Iván táncolna Mártával, de Márta nem [VP ~~táncolna~~]/
Ivan dance-cond Martha-with but Martha not dance-cond/
[VP ~~táncolna Ivánnal~~].
dance-cond Ivan-with
??'Ivan would dance with Martha, but Martha not.'

(15) ??Péter szeretne táncolni Marival, de Mari nem
Peter like-cond dance-inf Mary-with but Mary not
[VP ~~szeretne táncolni Péterrel~~].
like-cond dance-inf Peter-with
??'Peter would like to dance with Mary, but Mary not.'

The puzzle about (14) and (15) above is that we could in theory successfully infer the contents of the ellipsis site on the basis of what propositions can be identical to or entailed by the proposition expressed by the clause containing the antecedent, they are markedly worse than (2)–(3) above, where the licensing of ellipsis can also be said to be regulated by inference strategies. The examples thus indicate that only those instances of VP-ellipsis can be licensed on the basis of systematic meaning relations between the antecedent and elided material, to be discussed in section 4 below, which contain only non-finite verb forms. In the rest of the paper, we will therefore concentrate on the licensing of the ellipsis of VPs containing a non-finite verb. As (16) and (17) below show, however (noted by Márta Maleczki, p.c.), the forward ellipsis of non-finite VPs can be licensed by finite VPs as well. (For a syntactic account on how the forward ellipsis of non-finite verb forms can generally be licensed by tensed forms, see Bartos 2000.)

(16) Iván táncolna Mártával, de Márta nem akar [VP ~~táncolni~~]/
Ivan dance-cond Márta-with but Márta not wants dance-inf/
[VP ~~táncolni Ivánnal~~].
dance-inf Ivan-with
'Ivan would dance with Márta, but Márta doesn't want to [~~dance~~]/[~~dance with Ivan~~].'

(17) Péter szeretne táncolni Marival, de Mari nem akar [VP ~~táncolni Péterrel~~].
Peter like-cond dance-inf Mary-with but Mary not wants dance-inf Peter-with
'Peter would like to dance with Mary, but Mary doesn't want to [~~dance with Peter~~].'

To sum up the discussion, Hardt's (1993) proposal does not seem to be able to explain the licensing of the ellipsis in the Hungarian examples above, since they are much more constrained than what a purely pragmatic approach could guarantee. Furthermore, Hardt's treatment of reciprocity could not be

adopted either, since in the Hungarian sentences under investigation the reciprocal meaning is not connected to a particular expression like 'each other' in (11), but it is part of the meaning of the verbs themselves.

In the following section we consider Webber's semantics-based proposal for the licensing of ellipsis, and discuss the possibilities of extending it to the Hungarian data under discussion.

3.2. Webber (1979)

Historically, Webber (1979) was the first to call attention to examples of VP-ellipsis like those reproduced here in (18) (Webber's exx. (67) and (68)), where syntactic identity between the antecedent and the target of ellipsis is clearly impossible.

(18) Irv and Martha wanted to dance together/with each other, but Martha's mother said that she couldn't ∅.
∅ = dance with Irv

Webber's (1979) account, just like Hardt's, takes the reconstruction-based approach to ellipsis-resolution. It means that she considers the ellipsis site as being generated empty, and allows semantically-based procedures, namely, inferences to determine the appropriate content of the ellipsis site. The difference between her approach and Hardt's lies in the fact that she does not rely on the context or extralinguistic factors to determine the interpretation of the ellipsis site.

Accordingly, the semantic reasoning procedure providing the interpretation of the elided material in sentences like (18) above would be the following. First, if P is known to be a reciprocal predicate applying to two arguments a and b, then the relation denoted by the predicate must hold between the two arguments listed in any order, as shown by Webber's schema in (19).

(19) If ⟨a⟩ and ⟨b⟩ do ⟨P⟩ together (or with each other) then ⟨a⟩ does ⟨P⟩ with ⟨b⟩ and ⟨b⟩ does ⟨P⟩ with ⟨a⟩.

Furthermore, it follows from (19) that if the predicate P holds for two arguments a and b, then it must also hold for one of them and a variable, too. The next step is to λ-abstract over the variable serving as an argument of the predicate, which would result in the logical interpretation corresponding to a VP. In the present case, the possible logical representations corresponding to the elided VP would be the following: λ(r)[Dance r, Irv] and λ(s)[Dance s, Martha]. Since

in (18) only the former can be meaningfully applied to the denotation of the noun *Martha*, the contents of the elided VP can be determined unambiguously.

Although Webber's theory on elliptical sentences without formal identity between antecedent and elided material seems to be more applicable to the Hungarian data at hand than the pragmatic one, it still has to be rejected on the following grounds. Webber's approach to elliptical sentences is reconstructional. This means that she accepts the claim that the ellipsis site is generated empty, and it is filled with material identical in some respect to the antecedent in the course of the interpretation. This approach would thus allow the generation of ill-formed structures (with empty places), which are filled with content in the course of interpretation, in LF or the semantic component. This in the present case would mean that lexical information would be available after the surface structures are generated, which would counter the view assumed in the current minimalist framework on the organization of grammar. As it was shown in the work of Bartos (2000), many puzzling ellipsis phenomena can be explained by taking the view that ellipsis is an instance of phonological non-insertion of lexical material under partial or full identity with other constituents in the structure.[3]

In the next section, we first give some background on syntactic theories of ellipsis licensing, motivate our decision to shape our theory on non-syntactically motivated ellipsis after these former accounts, and argue for considering the ellipsis-licensing potential of VPs as already being part of the lexical meanings of the verbs themselves, and can thus possible to be captured in terms of meaning postulates.

4. Proposal: ellipsis licensing with meaning postulates

4.1. The syntactic basis of ellipsis licensing

In this section we will review a syntactic account of elliptical sentences, developed in Bartos (2000), and argue for adopting it to explain the licensing of elliptical sentences with seemingly no syntactic relation between the licensing antecedent and the ellipsis site.

Bartos's theory is based on the Distributed Morphology model of Halle Marantz (1993), according to which at the level of the syntactic structure

[3] One of these is the explanation of why the ellipsis of a non-finite form can be licensed by a finite form in forward ellipsis, but not vice versa.

including spell-out, would-be sentences consist of a hierarchical arrangement of syntactic/semantic feature bundles characterising lexical items, but none of them bears its phonological features yet. Phonological insertion takes place at Morphological Structure (MS), a separate level of grammar. Bartos argues that all cases of backwards ellipsis and a large proportion of cases of forward ellipsis are instances of phonological non-insertion at MS, due to the recoverability of the content of the ellipsis site by formal means. Formal recoverability may be due to the identity of the features characterising the item to be deleted with other feature matrices in the structure, or the recoverability of the features via agreement.

According to Bartos, the difference between the extent to which the elided material has to be identical to its licensing antecedent in forward versus backwards ellipsis is due to the fact that forward ellipsis is anaphoric but backwards ellipsis is not. Since there is no semantic relation which could license backwards ellipsis other than full identity, which can be accounted for in terms of Bartos's model anyway, in what follows we will concentrate only on instances of forward ellipsis.

Bartos's theory surpasses other, entirely reconstruction- or anaphora-based theories of ellipsis in being able to account for the majority of cases within syntax and not having to postulate the existence of syntactic null-forms to be interpreted in the LF or the semantic component. (Naturally, there is a portion of forward ellipsis cases which will escape the above, essentially deletional treatment, including those where the antecedent and the ellipsis site are situated in different sentences.)

Considering the advantages of the deletion-based approach to ellipsis summarized above, it appears a favourable solution to try and account for the licit instances of forward ellipsis without form-identity described above as cases of phonological non-insertion. The deletion model, as was mentioned above, is based on the criterion that the feature bundles representing the item to be deleted (not to undergo phonological insertion) have to be recoverable. Since according to the minimalist conception of grammar phonological insertion takes place on a different branch of the derivation than Logical Form and before the semantic component, the semantic relations between the antecedent and the elided constituent can only license the non-insertion if those relations are already built into the representation of the lexical items concerned in the lexicon.

The meaning relations expressed by VPs and their arguments can be reflected in the lexicon if verbs are represented together with specifications on the number and case of their required arguments, and with an indication of

what other verbs, provided the necessary arguments are also present, can express the same proposition, or semantically related propositions. Thus, verbs giving rise to identical propositions could be represented in terms of the same abstract features or feature bundles, while verbs giving rise to propositions entailing other propositions containing other verbs or other senses of the same verb would be represented with a superset of the feature bundles representing the second verb. Non-insertion of one verb form at MS could thus be licensed by the presence of a verb non-identical to it phonologically, but represented in terms of the same features or feature bundles, or features from which the features at the ellipsis site could be recovered. This could explain the licensing of the ellipsis in the second clause of example (3) above.

In the next section we will show that a proper means of representing such systematic semantic relations between propositions or lexical items would be the device called meaning postulates, which can accommodate analytical truths based on the meaning of words in a formal way (Johnson-Laird 1981).

As a last observation here before discussing the actual form of meaning postulates we wish to call attention to the fact that the representation of lexical items together with their arguments and meaning relations is also useful from the point of view of explaining backwards ellipsis, since, as it often goes unnoticed by syntactic accounts, the licensing of the latter phenomenon does not only require phonological identity, but also sense identity. That is, an antecedent verb, even if it is phonologically identical to a verb appearing in a previous conjunct in a different argument structure, cannot license the ellipsis of the latter, as (20) (21) below indicate.

(20)*Vili szeretne Marival [$_{VP}$ ~~táncolni~~], de Mari nem fog táncolni.
Bill would-like Mary-with dance-inf but Mary not will dance-inf
*'Bill would like [~~to dance~~] with Mary, but Mary won't dance.'

(21)*Vili szeretne Marival [$_{VP}$ ~~táncolni~~], de Mari nem fog vele táncolni.
Bill would-like Mary-with dance-inf but Mary not will he-with dance-inf
*'Bill would like [~~to dance~~] with Mary, but Mari will not dance with him.'

Since the verb *táncolni* 'dance' appears in the final conjunct of (20) in its one-argument version as opposed to the two-argument version in the initial conjunct, the ellipsis of the latter cannot be licensed by the presence of the former, in spite of the phonological identity of the two verb forms. This suggests that not only phonological but also sense identity is required for backwards ellipsis, which somehow has to be specified in the lexicon. More surprisingly, the ellipsis of the verb in the initial conjunct is not licensed in (21) either,

probably because the case requirements of the arguments of the two verb forms are not identical. This suggests that information about the required cases of NP arguments and the meaning relations between verbs appearing in different case-frames also have to be specified in the lexicon.

4.2. Ellipsis licensing with meaning postulates

In this section it will be illustrated how certain cases of VP-ellipsis (involving non-finite verb forms) without formal identity between the antecedent and the elided material can be accounted for in terms of meaning postulates encoded in the lexicon as part of the specification of the verbs included in them. Meaning postulates describe systematic equivalences and entailment relations between propositions consisting of a verb and the number of arguments required by it. In order that the ellipsis of a verb phrase non-identical to its antecedent can be considered as phonological non-insertion (or deletion) at MS, as suggested for other cases of ellipsis by Bartos (2000), it is also required that the subject of the elided VP be identical to one of the arguments of the antecedent, and the set of arguments required by the elided verb be a subset of the set of arguments required by the antecedent verb. This condition would take care of the fact that the ellipsis of a VP cannot be licensed by semantic equivalence or entailment if the referent of its subject is not related in any way to the proposition containing its antecedent, as the ill-formed example (13) shows.

A typical meaning postulate satisfying the above requirements would look like the one in (22) below, where the number of arguments required by the verb together with their required cases in Hungarian are also indicated.

(22) A meaning postulate for *összeházasodik* 'marry'

összeházasodik [(*x és y*)*-nom*]	⇔	*összeházasodik* [*x-nom, y-comitative*]
'marry' [(x and y)-nom]		'marry' [x-nom, y-comitative]

In (22) above, the brackets '[' and ']' enclose the required arguments of the verb, while the parentheses '(' and ')' enclose larger constituents which function as one argument. The sign '⇔' denotes meaning equivalence. The first sense of the verb is thus represented as requiring one argument, which, however, must refer to a pair or pairs of two individuals, as the following examples show.

(23) A fiatalok összeházasodtak.
the youth-pl marry-past-3pl
'The young people got married.'

(24) A pár összeházasodott.
the couple marry-past-3sg
'The couple got married.'

The same meaning postulate would be responsible for the licensing of example (1) above, repeated here as (25).

(25) Viki és Gabi szeretnének összeházasodni, de Gabi nem mer
Vic and Gaby like-cond-3pl marry-inf but Gaby not dare-3sg
[VP ~~összeházasodni Vikivel~~], mert az apja utálja Vikit.
marry-inf Vic-with because the father-poss hates Vic-acc
'Vic and Gaby would like to get married, but Gaby does not dare to [~~marry Vic~~], since her father hates Vic.'

Here a proposition corresponding to the left side of the equivalence in (22) is described by the first conjunct, while the elided VP together with its subject expresses a proposition corresponding to the right side of (22), and thus, the ellipsis of the second VP is licensed.

The following two meaning postulates relate three senses of the verb *táncol* 'dance' in Hungarian:

(26) (a) *táncol* [(*x és y*)-*nom*] ⇔ *táncol* [*x-nom, y-comitative*]
'dance' [(x and y)-nom] 'dance' [x-nom, y-comitative]
(b) *táncol* [(*x és y*)-*nom*] ⇒ *táncol* [*x-nom*]
'dance' [(x and y)-nom] 'dance' [x-nom]

The first meaning postulate in (26a) intends to capture the reciprocal nature of the predicate referred to by the verb *táncol* 'dance', while the second in (26b) the fact that the same verb can equally denote a two-argument as well as a one-argument verb. The fact that two possible structures can appear in the ellipsis site in (27) illustrates that both meaning postulates are at work.

(27) Vili és Mari szeretnének táncolni, de Mari nem tud
Bill and Mary like-cond-3pl dance-inf but Mary not can
[VP ~~táncolni~~]/[VP ~~Vilivel táncolni~~].
dance-inf Bill-with dance-inf
'Bill and Mary would like to dance but Mary can't [~~dance~~]/[~~dance with Bill~~].'

Note, however, that there is no meaning postulate which connects the second senses of the verb *táncol* 'dance' in (26a) and (26b), since the fact that

somebody is dancing with an inanimate object does not imply that the same object danced (e.g., *Bill danced with the doll* ↛ *The doll danced*).

In this section we have illustrated some instances of VP-ellipsis licensing with respect to meaning postulates. We have proposed two types of meaning postulates, one of which encodes the equivalence of two propositions, shown in (22) and (26a), while the other, shown in (26b), encodes an implication relation between two propositions. The meaning postulates were presented in such a format that whenever the antecedent propositions satisfied the requirements of the left hand side of the meaning postulate, the ellipsis of a VP satisfying the requirements of the right hand side was licensed, independently of the fact whether the meaning postulate stated an equivalence or an entailment relation between the two propositions.

In the next section we are going to extend the investigation to a wider range of examples and establish some characteristic patterns which the meaning postulates licensing VP-ellipsis follow in Hungarian.

5. A preliminary classification of meaning postulates

In this section we will consider four classes of meaning postulates containing the same verbs used in different senses or morphologically or semantically related verbs which can be proved to participate in the licensing of forward VP-ellipsis in coordinate structures. The meaning postulates will state meaning equivalence or entailment between two propositions such that if a VP satisfies the requirements of the right hand side of the meaning postulate and is preceded by a proposition satisfying the left hand side of the same formula then its ellipsis is licensed.

The first class of meaning postulates, formalized in (28) below, relates propositions expressed by a transitive verb and its two arguments and a proposition expressed by a morphologically related intransitive verb, which expresses an induced action resulting from the action referred to by the transitive verb, and its only argument. The class of transitive verbs involved in the alternation is not restricted to factitives but also includes causatives describing an action which needs the active involvement of the undergoer in some sense.

(28) X V_{trans} Y ⇒ Y $V_{intrans}$ (induced action)

The pairs of verbs shown in (29) are related by the meaning postulate in (28).

(29) *leültet* 'offer a seat to' *leül* 'sit down',
megmosolyogtat 'make sy smile' - *mosolyog* 'smile',
megnevettet 'make laugh'- *nevet* 'laugh',
felébreszt 'wake up (transitive)' —*felébred* 'wake up (intransitive)',
siettet 'hurry (transitive)' – *siet* 'hurry (intransitive)',
megtanít 'teach' - –*megtanul* 'learn',
megfürdet 'bathe (transitive)' *megfürdik* 'bathe (intransitive)'

The following examples in (30) (32) illustrate instances of ellipsis where the semantic relation between the antecedent and the elided verb is the one described by the meaning postulate above.[4]

(30) Mari leültette a vendéget, bár az nem akart [$_{VP}$ ~~leülni~~].
Mary down-make_sit the guest-acc but that not wanted down-sit-inf
'Mary made the guest sit down, although he didn't want to [~~sit down~~].'

(31) Pista meg akarja tanítani Marit táncolni, de Mari nem akar
Steve pv want-3sg teach-inf Mary-acc dance-inf but Mary not want-3sg
[$_{VP}$ ~~megtanulni táncolni~~].
learn-inf dance-inf
'Steve wants to teach Mary to dance but Mary doesn't want to [~~learn to dance~~].'

(32) Pista meg akarja fürdetni a kutyát, de az nem akar [$_{VP}$ ~~megfürödni~~].
Steve pv want-3sg bathe-inf the dog-acc but that not want bathe-inf
'Steve wants to bathe the dog but it doesn't want to [~~bathe~~].'

Example (33) below shows that the meaning postulate licensing of the well-formedness of (30) above really cannot license its backwards variant.

(33) *A vendég le akart ülni, bár Mari nem akarta őt [$_{VP}$ ~~leültetni~~].
the guest down wanted sit-inf although Mary not wanted him make_sit-inf
'The guest wanted to sit down, although Mary didn't want him to [~~sit down~~].'

Examples (34)-(36) below illustrate that the above meaning postulate cannot relate transitive verbs with semantically (as in (34)) or morphologically (as in (35) and (36)) related intransitive ones which do not refer to an action.

[4] Note that I am only claiming that instances of **coordinate ellipsis** can be explained on the basis of the meaning postulates given here. It requires further investigation why an example like (i) below is much less acceptable than (30), for example:

(i) *Mari leültette a vendéget, mivel az szeretett volna [$_{VP}$ ~~leülni~~].
Mary down-make_sit the guest-acc since that liked would down-sit-inf
*'Mary made the guest sit down, since he would have liked to [~~sit down~~].'

(34)*Mari megpróbálta megölni Jánost, de az nem akart [VP ~~meghalni~~].
Mary pv-tried-3sg pv-kill-inf John-acc but that not wanted-3sg die-inf
*'Mary tried to kill John but he didn't want to [~~die~~].'

(35)*Sikerült eltörnöm az üveget, bár azt hittem, hogy ez
managed break-inf-1sg the glass-acc though that believed-1sg that this
sosem fog [VP ~~eltörni~~].
never will break
'I managed to break the glass, although I thought that it won't [~~break~~].'

(36)*Pista meg akarja sütni a tortát, de az nem fog [VP ~~megsülni~~],
Steve pv want-3sg bake-inf the cake-acc but that not will bake-inf
mert nem jó a sütő.
because not good the oven
'Steve wants to bake the case but it won't [~~bake~~] since the oven is broken.'

The next type of meaning postulate, formalized in (37), relates two propositions which are expressed by the verb *bemutatkozik* 'introduce oneself' and its three arguments.

(37) X and Y V ⇔ X V Y-dative

The licensing of the following instance of ellipsis can be accounted for in terms of the above meaning postulate:

(38) Mari és Pista bemutatkoztak, bár először Pista Marinak
Mary and Steve introduce_ oneself-past-3pl though first Steve Mary-dat
nem akart [VP ~~bemutatkozni~~].
not wanted introduce_ oneself-inf
'Mary and Steve introduced themselves to each other, although Steve first didn't want to [~~introduce himself to Mary~~].'

The third class of meaning postulates, formalized in (39) below, relates two senses of verbs requiring two arguments including *összeházasodik* 'marry' and *táncol* 'dance', with the help of which the phenomena under investigation were illustrated informally above. The pattern in (39) can be considered the generalized version of (22) and (26a) above.

(39) X and Y V ⇔ X V Y-comitative

In (40) below some representatives of the class of verbs satisfying (39) above are listed, among which the starred ones also satisfy the meaning postulate in (41) below, the generalized version of meaning postulate (26b) above.

(40) *összeházasodik* 'marry', *alkudozik** 'bargain', *együttműködik* 'cooperate', *összeütközik* 'clash', *versenyez** 'compete', *levelez** 'correspond', *flörtöl** 'flirt', *cserél** 'swap', *találkozik** 'meet', *megegyezik** 'agree', *táncol** 'dance', *csókolózik* 'kiss', *vitatkozik** 'argue', *beszélget** 'chat'

(41) X and Y V ⇒ X V
X and Y V ⇒ Y V

Relevant examples illustrating the workings of the meaning postulate have already been discussed before and include (1)–(8) and (13) (15) above.

The last type of meaning postulate is exemplified by verbs such as *különbözik* 'differ' and *elválik* 'depart, divorce', and formalized in (42) below.

(42) X and Y V ⇔ X V Y-ablative

Example (43) below illustrates the licensing of VP-ellipsis on the basis of the above meaning postulate.

(43) Pista és Mari végül elváltak, bár Mari nem akart [$_{VP}$ ~~elválni Pistától~~].
Steve and Mary eventually divorced though Mari not wanted divorce-inf Steve-from
'Steve and Mary divorced eventually, although Mary didn't want to[~~divorce Steve~~].

This ends the discussion of the particular classes of meaning postulates which can play a role in the licensing of ellipsis. In the conclusion the main results of the study are summarized.

6. Conclusion

In this paper we have investigated to what extent the licensing of VP-ellipsis without strict form-identity between antecedent and elided material can be accounted for within grammar proper, instead of the semantic component or pragmatics. We have proved that at least the forward ellipsis of VPs containing infinitival verb forms in coordinate structures can be explained with the help of the same principles as cases of VP-ellipsis based on syntactic identity, namely as non-insertion of phonological material at MS, licensed by lexical information.

The lexical information licensing the above cases of VP-ellipsis were encoded in terms of meaning postulates. We have proposed four classes of meaning postulates for Hungarian which state meaning equivalence or entailment between propositions containing morphologically related verbs or the same verb used with different argument structures.

The above results are welcome, since, on the one hand, they account for parallelisms with respect to well-formedness with other cases of backwards and forward ellipsis licensed within syntax, while, on the other hand, they can explain why elided verbs have to be morphologically related to and bear one of a number of systematic meaning relations to their antecedents.

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CONCEPTUAL METAPHORS AND BLENDS OF "UNDERSTANDING" AND "KNOWLEDGE" IN HUNGARIAN*

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Abstract

This paper combines the theories of conceptual metaphor, blending and the profile/base relations system of Langacker in interpreting the most important verbs of "understanding" and "knowledge" in the Hungarian language within the conceptual metaphors UNDERSTANDING IS SEEING, and UNDERSTANDING IS GRASPING. The analysis demonstrates that the semantic compositions of verbal prefix + verb play an outstanding role in constructing the expressions of "understanding" and "knowledge" prior and/or parallel to the metaphoric correspondences. The verbal prefixes build a complex spatial system in Hungarian and, combined with verbs of visual and tactile conceptual structures, represent "understanding" and "knowledge" in a dynamic way, where the target entity of understanding or knowledge is taken as a fully structured object.

1. Introduction

It was a well-known fact even before the rise of cognitive linguistics that, in the conceptual and linguistic representation of human experiences, there are fundamental analogies between "perception" and "cognition". The Hungarian language is no exception in this respect. Nevertheless, it seems reasonable to look at the folk theories of "understanding" and "knowledge" manifest in Hungarian.[1] The present analysis is based on the theoretical foundations of cognitive linguistics by Langacker (1987); Lakoff (1987); and Lakoff Johnson (1980).[2]

* I am grateful to Mária Ladányi for her critical comments and questions on an earlier version of this paper. All shortcomings, of course, are mine.

[1] Everyday experiences are structured by people according to prototypical instances, forming "folk categories". On the other hand, "expert categories" are constructed by scientific principles and methodology (cf. Taylor 1991, 72–4).

[2] Some theoreticians tend to distingish two main streams in present day linguistics as a cognitive science: one is the "holistic" or functional line (represented by the works of R. Langacker and G. Lakoff), the other one is the modular or formal line (cf. Schwarz 1992). The present paper takes the functional line as its theoretical basis.

First a taxonomy of the most important words of "understanding" and "knowledge" is given grouped in two conceptual metaphors, thereafter the verbs are interpreted in Langacker's profile/base and temporal/atemporal relations system, and as a synthesis the results are elaborated on in the framework of blending theory in those cases where semantic composition is primary to the conceptual metaphor. As a result it can be assumed that a complete spatial system is built up conceptually concerning "understanding" and "knowledge", partly by language specific morphological constructs of verbal prefixes and verbs, prior to the conceptual metaphors; that the semantic compositions characteristic of expressions of "understanding" and "knowledge" are formed by a certain type of blending; and that the goal of understanding or the representation of knowledge is an entity, something like an object independent of man.

2. Two conceptual metaphors of "understanding" and "knowledge"

In the first part of the paper I give a list of the most important metaphorical relations between perception and cognition in the conceptual domain of "understanding" and "knowledge" in the Hungarian language. As explicated below, these two concepts are closely related not only in psychology (as process and structure in the mind) or in philosophy, but also in the folk theories represented in the Hungarian language. Both concepts are elaborated in different conceptual metaphors of vision and grasping, mainly in UNDERSTANDING IS SEEING, UNDERSTANDING IS GRASPING (as possibly in many other languages, probably as a language universal, indicated by Lakoff Johnson 1980 and Sweetser 1990, all originating from the MIND IS A BODY conceptual metaphor). I do not deal with the auditive mode of perception and understanding in detail, since the conceptual metaphor UNDERSTANDING IS HEARING seems to be less relevant in Hungarian than the other ones.

The conceptual structures of "understanding" and "knowledge" in the Hungarian language are to be found in the following tables (on the basis of Lakoff Johnson 1980; Sweetser 1990; Sjöström 1998, the tables are constructed in harmony with Sjöström 1998, 84). The tables are formed according to the main components of conceptual metaphors: the cognitive relation, the cognitive agent, and the cognitive object.

2.1. Understanding is seeing

Table 1

THE PERCEPTION RELATION		THE COGNITIVE RELATION	
1. verbs			
(a) lát	'see'	lát	'understand,'perceive', 'think','find','deem', 'consider'
átlát	'see across/through'	átlát	1.'penetrate, fathom', 2.'comprehend, realize'
belát	1.'see in', 2.'survey, look over'	belát	1.'have an insight into', 2.'realize', 3.'admit a fault'
belelát	'see into'	belelát	'get an insight of/into'
keresztüllát	'see through'	keresztüllát	'understand sy's intention, behaviour'
meglát	'catch sight of'	meglát	1.'understand', 2.'realize'
rálát	'overlook, have a sight of	rálát	'understand sg as a whole'
túllát	'see beyond, over'	túllát	'understand sg in its broader context'
(b) néz	'look at'	néz	'consider'
átnéz	'look through'	átnéz	'go over, run through'
belenéz	'look into'	belenéz	'read superficially'
félrenéz	'look aside'	félrenéz	'pay no attention deliberately'
hátranéz	'look back'	hátranéz	'deal with the past'
keresztülnéz	'look through'	keresztülnéz	'ignore sy'
kinéz	'look out'	kinéz	1.'find some data from a text', 2.'be guessable', 3.'think, guess of sy'
megnéz	'look at'	megnéz	'examine the state of affairs'
odanéz	'look at'	odanéz	'pay attention to sg'
ránéz	'look at'	ránéz	'pay attention to sg/sy'
szétnéz	'look around'	szétnéz	'gather information'
utánanéz	'look after'	utánanéz	1. 'look after', 2.'try to find', 3.'examine'
végignéz	'look on, see to the end'	végignéz	'examine'
(c) tekint	'look at'	tekint	'consider, regard as'
áttekint	1.'look across' 2.'survey, look over'	áttekint	'have a global understanding'
(d) szemlél	'view, gaze at'	szemlél	'mentally act to understand'
(e) megvilágít	'illuminate'	megvilágít	'illuminate, make sg understandable'

THE PERCEPTION RELATION		THE COGNITIVE RELATION	
2. nouns			
belátás	'the sight into sg'	belátás	1.'discernment of, insight into', 2.'understanding, comprehension'
látásmód	'way of seeing'	látásmód	'point of view'
látóhatár	'horizon'	horizont	'horizon'
látókör	'field of vision'	látókör	'horizon, scope'
látószög	'visual angle'	látószög	'point of view'
nézet	'view'	nézet	'view, opinion, idea'
nézőpont	'point of view'	nézőpont	'point of view'
tekintet	'look, glance'	tekintet	1.'regard, respect, consideration' 2.'relation, point of view'
szemlélet[3]	'way of looking'	szemlélet	'aspect, contemplation'
szempont	'point of view'	szempont	'point of view, aspect'

Table 2

THE PERCEIVER		THE COGNITIVE AGENT	
vak	'blind'	vak	'blind'
elvakult	'blinded'	elvakult	'be blind to sg'
sötét	'dark'	sötét	'stupid, dismal, shady'
[sokat lát	'see much']	széles látókörű	'sy with a wide intellectual horizon'
[keveset lát	'see little']	szűk látókörű	'sy with a narrow intellectual horizon'
csukott szemmel	'with closed eyes'	csukott szemmel	'without the intention of understanding'
nyitott szemmel	'with open eyes'	nyitott szemmel	'with the intention of understanding'
tágra nyílt szemmel	'with wide open eyes'	tágra nyílt szemmel	'with the intention of understanding'
ködös	'foggy'	ködös	'confused'
[kép	'picture, image']	képes	'capable, able'
		képtelen	'incapable, unable'

[3] *szem* 'eye' + *lél* verbal derivational affix + *et* nominal derivational affix.

Table 3

THE PERCEIVED OBJECT		THE COGNITIVE OBJECT	
sötét	'dark'	sötét	'obscure, unintelligible, incomprehensible'
világos	'clear, bright'	világos	'obvious, self-evident, intelligible, comprehensible'
látható	'visible'	látható	'comprehensible'
átlátható	'can be seen through'	átlátható	'penetrable, comprehensible as a whole'
belátható	'can be surveyed'	belátható	'comprehensible'
homályos	'dim'	homályos	'difficult to understand'
áttekinthető	'easy to survey, clearly arranged'	áttekinthető	'easy to understand globally'
ködös	'foggy'	ködös	'vague'

The conceptual metaphor UNDERSTANDING IS SEEING in the Hungarian language can be characterized as follows:

(1)

SOURCE:	TARGET:
(a) an agent (prototypically a human being)	(a) an agent (prototypically a human being)
(b) visually perceives (or does not or cannot perceive)	(b) mentally perceives, i.e. understands (or does not or cannot understand)
(c) a physical object	(c) a certain state of affairs

The mappings between the source and the target domains are very clear, indicating strict correspondences between the components of the two domains. Both visual and cognitive relations (i.e. the perception or the cognitive processes) are represented from the point of view of the agent, thus with respect to the way this agent approaches the object or state of affairs. The ways are expressed mostly by the different spatial relations represented in the trajector landmark relations of the verbal prefixes (for more details see below). The ability of the agent, the degree of the perception are indicated by expressions mainly independent of the verbs with very strong spatial reference.

2.2. Understanding is grasping

Table 4

THE PERCEPTION RELATION		THE COGNITIVE RELATION	
1. verbs			
(a) fog	'hold'		
átfog	'grasp'	átfog	'span, comprehend'
egybefog	'hold together'	egybefog	'to form a thematic unit mentally or textually'
felfog	'seize', 'pick up', 'hold off'	felfog	'grasp, comprehend'
megfog	'catch, hold'	megfog	'grasp, comprehend'
[össze + fog + lal]	'together' + 'hold' + frequentative verbal derivational affix	összefoglal	'sum up, summarize'
(b) ragad	'stick'		
megragad	'seize, grasp'	megragad	1.'comprehend' 2.'understand the essence'
(c) tapint	'touch, finger'	tapint (az elevenére, a lényegre)	'touch the sore point', 'understand the essence of sg'
rátapint	'lay one's finger on'	rátapint (a lényegre)	'understand the essence of sg'
(d) vesz	'take'		
kivesz	1.'take out, remove' 2.'distinguish, make out'	kivesz	'infer, conclude'
2. nouns			
felfogás	'the act of seizure'	felfogás	1.'comprehension' 2.'opinion, notion'

Table 5

THE PERCEIVER		THE COGNITIVE AGENT	
[felfog→]		felfogású	
		gyors felfogású	'nimble-witted'
		lassú felfogású	'slow-witted'
felfogóképesség	'ability to seize, pick up, hold off'	felfogóképesség	'ability to comprehend'

Table 6

THE PERCEIVED OBJECT		THE COGNITIVE OBJECT	
[fog→]		fogalom	'concept'
felfogható	'(sg) may be seized, picked up, held off'	felfogható	'intelligible, comprehensible'
felfoghatatlan	'(sg) may not be seized, picked up, held off'	felfoghatatlan	'incomprehensible'

The conceptual metaphor UNDERSTANDING IS GRASPING in the Hungarian language can be characterized as follows:

(2)

SOURCE:	TARGET:
(a) an agent (prototypically a human being)	(a) an agent (prototypically a human being)
(b) grasps or touches (or does not or cannot grasp or touch)	(b) mentally grasps or touches, i.e. understands (or does not or cannot understand)
(c) a physical object	(c) a certain state of affairs

The mappings between the source and the target domains are very clear, indicating strict correspondences between the components of the two domains. Both tactile and cognitive relations (i.e. the grasping or the cognitive processes) are represented from the point of view of the agent, thus with respect to the way this agent approaches the object or state of affairs. The ways are expressed mostly by the different spatial relations represented in the trajector landmark relations of the verbal prefixes (for more details see below). The ability of the agent, the degree of the perception are also indicated by expressions that mainly derive from verbs with very strong spatial reference.

2.3. The main features of the two conceptual metaphors

From the data presented above some assumptions can be made, in accordance with Lakoff Johnson (1980), and Sweetser (1990). The expressions of "understanding" and "knowledge" are

- clearly connected conceptually to visual and tactile expressions and their mental representations;
- there are more visual expressions than tactile;

- the conceptual relation between the perception relation and the cognitive relation is more explicit within the visual domain than within the tactile dimension.

However, the characterization is by far not exhausted. The following additional and preliminary assumptions may be set:

- a complete spatial system is built up conceptually concerning "understanding" and "knowledge", partly by language specific morphological constructs, prior to the conceptual metaphors;
- most of the semantic compositions characteristic of expressions of "understanding" and "knowledge" are formed by a certain compositional, not metaphorical type of blending;
- the spatial system and the compostional blends are characteristic of the verbs with verbal prefixes expressing the cognitive relations (i.e. the cognitive processes);
- the goal of understanding or the representation of knowledge is considered to be an entity, something like an object independent of man.

These assumptions need some explanation. Let's exemplify the first assumption by the verbs *lát* 'see', 'understand' and *átlát* 'see across/through', 'comprehend, realize'.

3. Profiling in the semantic constructions of verbal prefix + verb

3.1. *Lát* 'see'

Lát 'see' has the following features according to Langacker (1987; 1991; 1999):

(a) *in the perception relation*

- process with a temporal profile, sequential scanning,[4] imperfective (without change through time), without temporal bounding;
- domain: physical space;

[4] According to Langacker (1987, 248), "Sequential scanning [...] involves the successive transformations of one configuration into another. The component states are processed in series [...] This is the mode of processing that characterizes processual predications [...]."

- its landmark is an unspecified physical thing (object), something salient and distinct in a three-dimensional physical continuum (as indicated in Langacker 1987, 183ff with a matrix of profile-base relations in certain domains);

- its trajector is an intelligent being with the ability to perceive and process visual information; the visual processing is thus directed towards a physical thing (object), and this kind of processing is modelled in different ways (see e.g., Marr 1982).

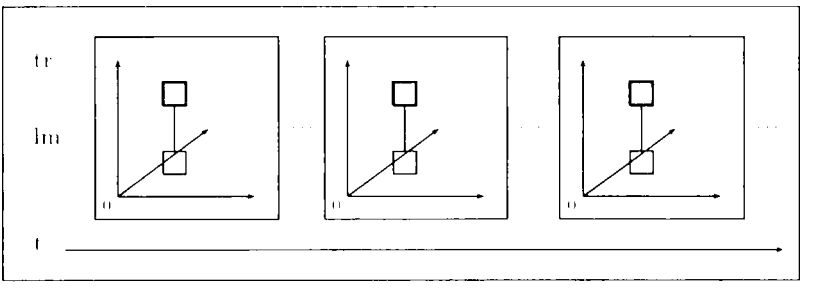

Fig. 1

(b) *in the cognitive relation*

- process with a temporal profile, sequential scanning, imperfective (without change through time), without temporal bounding;

- domain: a mentally processed spatial continuum;

- its landmark is a structured entity, a (complex) structure of information, something salient and (relatively) distinct within the continuum of incoming information (represented e.g., as a message, a situation, a relation, a problem, a definition etc.);

- its trajector is an intelligent being (prototypically a human being) with the ability to perceive and process, i.e., understand different kinds of information as a structured whole; this kind of processing is modelled in different ways (see e.g., the mental models by Johnson-Laird 1983; the modularity model by Fodor 1984; the connectionist model in McClelland Rumelhart 1986; Dinsmore 1992 and many others, the cognitive approach by Langacker himself and the idealized cognitive model by Lakoff

1987, etc., or the different discourse models, cf. van Dijk 1980; Strohner 1990).[5]

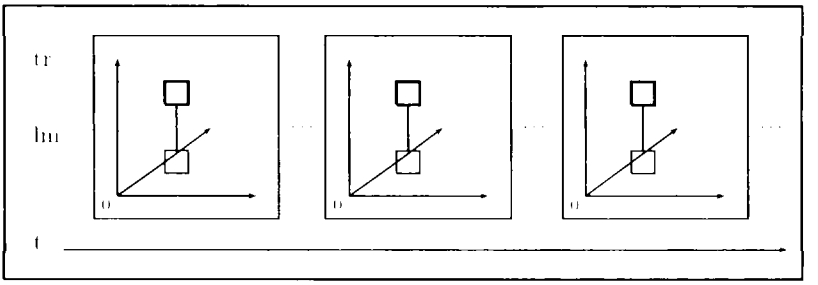

Fig. 2

3.2. The verbal prefix + verb composition

However, most of the data presented above show a bit more complexity both semantically and morphologically. The words of "understanding" and "knowledge" in the cognitive relation (representing the cognitive process) originate from some verbs of visual and tactile meaning, and usually have a verbal prefix[6] closely connected with them. These verbs and their derivatives have a prototypical structure, a structure that creates a double spatial/temporal and conceptual scheme:

[5] It should be mentioned that there are some basic expressions of "understanding" and "knowledge" belonging to one of the two conceptual metaphors only in a historical sense (i.e., they have no counterparts indicating any kind of perception relation in present-day Hungarian; for the etymological data see Benkő 1993; 1995). **1.** *ért* 1. 'understand', 2. 'refer to', 3. 'be skilled', 4. 'understand a language'. Etymology: *ér* 1. 'touch, hit', 2. 'reach to', 3. 'arrive at' + *t* instantaneous verbal derivational suffix. *Ér* is an ancient verb in Hungarian, possibly originating from the Finno-Ugric or the Old Turkic proto-language, in both cases with the meaning 'touch'. **2.** *megért* 'understand, comprehend'. Etymology: *meg* (originally *mög* 'the back of sg') verbal prefix for perfective aspect + *ért* (cf. 1.). **3.** *ismer* 'know', 'be familiar with'. Etymology: unknown. **4.** *tud* 1. 'know', 2. 'can, be able'. Etymology: the reconstructed Uralic form is **tumte* 'touch', 'feel with the fingers'. The present-day forms of the original verb can be found both in the perception relation and the cognitive relation in Finnish, Lapp, Estonian, and most of the other Finno-Ugric and Samoyedic languages.

[6] "Verbal prefix" is one possible English term for this linguistic unit in Hungarian, another one is "preverb". It must be mentioned that the process of grammaticalization in the forming of verbal prefixes did not yield "real" prefixes.

(3) verbal prefix + verb

Both morphemes conceptualize a spatial relation in terms of trajector and landmark and a temporal relation in terms of perfective and non-perfective aspect.

Take *átlát* 'look across, through', 'penetrate, fathom', 'comprehend, realize' for a closer look. (Compare *átlát* to *átmegy* 'go across': *Átmegyek az utcán.* 'I go across the street.') *Átlát* in the perception relation: *át* 'across, through, over' (verbal prefix) + *lát* 'see' (verb), 'see something distant through the air':

(4) Péter átlát a túlsó partra.
P across/through see-3sg the other side-on
'Péter can see the other side of the river/lake.'

'see something behind another not completely solid (i.e. penetrable) thing, material':

(5) Átlátok a bokron.
across/through see-1sg the bush-on
'I can see through the bush.'

Átlát in the cognitive relation:

(6) János átlátja a helyzetet.
J across/through see-3sg the situation-acc
'John understands the situation.'

It has to be mentioned that the Hungarian language has two parallel complete declensions of verbs: the definite and the indefinite declensions. The indefinite paradigm is used with indefinite objects or without any object (e.g., *olvas* in *Péter olvas* 'Peter is reading' where the hearer does not know what Peter is reading or *ül* in *A kutya a sarokban ül* 'The dog is sitting in the corner' where the verb has no object). The definite paradigm is used with 3rd person definite (direct) objects (e.g., *olvassa* in *Péter olvassa a könyvet* 'Peter is reading the book'). In the perception relation in the case of *átlát* the indefinite declension is used, whereas in the cognitive relation the definite one is used. However, both semantic constructions have their trajector and landmark, regardless of declension. Also to be mentioned is the fact that the complement of átlát in the perception relation is generally an adverb (as in (4) and (5)), while it is an object in the cognitive relation (as in (6)).

3.3. The verbal prefix *át* 'through/across'

Before analyzing the semantic constructions of *átlát*, the verbal prefix *át* needs some explanation. Verbal prefixes are characterized by Hungarian grammars as morphemes that modify the meaning of the verbal stems (they indicate the spatial orientation of the action, they make a verb perfective), they may change the Aktionsart of the verb, and also they modify the syntactic functions of the verbal stem (they make a verb transitive, they change the valency relations of a verb, etc.) (cf. Kiefer 2000, 289 97; Kiefer Ladányi 2000; Kugler 2000). As seen in the above examples, the verbal prefix may be in preverbal position, but in other cases (e.g. when there is an emphatic constituent in the sentence which always immediately precedes the verb), it is in postverbal position (É. Kiss 1995 highlights the phenomenon in generative terms):

(7) János nem látja át a helyzetet.
J not sees across/through the situation-acc
'John doesn't understand the situation.'

The verbal prefix may also form an utterence by itself, mainly in short answers:

(8) A: Átlátod a helyzetet?
across/through see-2sg the situation-acc
'Do you understand the situation?'
B: Át.
across/through
'Yes.'

Át 'across/through' can be explained briefly as follows (I use the unspecified figures in Langacker 1987, 218 and 1991, 22 a) in the perception relation:

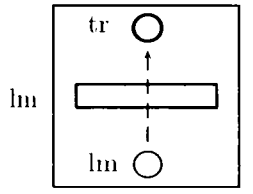

Fig. 3

Here the relation between the landmark and the trajector is profiled in an oriented physical space as a path between the source and the goal, and the trajector (the thing to be seen) is also profiled. Although the second landmark

(the "impediment") is profiled as a whole, it has no other specification. The first landmark is specified as simply a source, or in a more elaborated explication it is a reference point (Langacker 1999, 50). Here the path across/through relation implies |INTO|, |IN| and |OUT OF|.

Át 'across/through' in the cognitive relation:

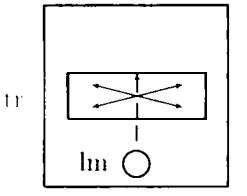

Fig. 4

Here the landmark as a source is in relation with the second landmark in the perception relation, thus the path between the source (the reference point) and the second, profiled landmark (the "impediment") is profiled, and also the path in the second landmark. This relation implies |INTO| and |IN|, but not |OUT OF|. The original trajector of the perception relation disappears, and the original second landmark becomes a trajector, there is a shift of profiling in relation to the perception relation. This profiled new trajector has different features: it is profiled as a whole, and also as a structured whole. The path in this case doesn't mean 'across/through something as a whole, as a unit', but 'across/through the components of something within that something as a whole, as a unit'. The main conceptual mapping is 'to get to the end of an entity from within'.

3.4. The verbal prefix + verb composition in the figure/ground relation

Turning back to the example of *átlát* as a unit of two morphemes, this verb has the following semantic construction in the perception relation (for the sake of simplicity the figure contains only one component state of the innumerable ones, instantiating one moment of conceived and also of processing time):

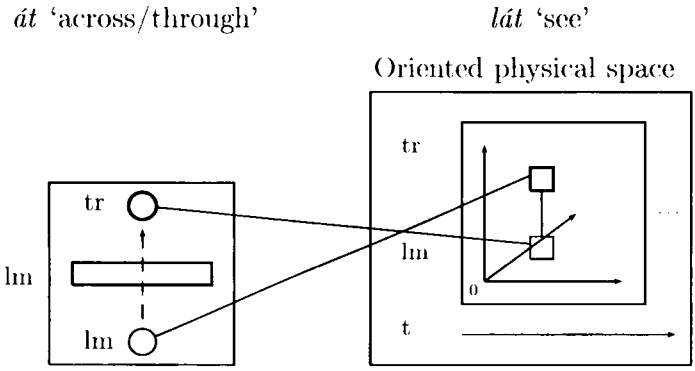

Fig. 5

In the case of the perception relation the original trajector (the goal in the source-path-goal image schema) of the verbal prefix *át* 'across/through' is identical with the landmark of *lát* 'see', whereas the first landmark (the reference point) of *át* 'across/through' is identical with the trajector of *lát* 'see'.[7]

Átlát has the following semantic construction in the cognitive relation:

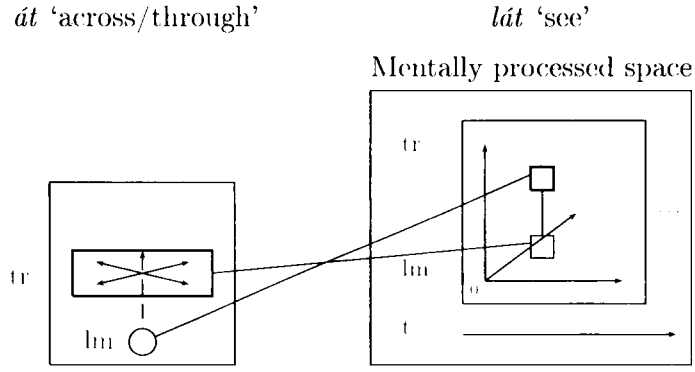

Fig. 6

In the case of the cognitive relation the original second landmark, the new trajector (the new goal in the source-path-goal image schema) of the verbal prefix *át* 'across/through' is identical with the landmark of *lát* 'see', whereas the first landmark (the reference point) of *át* 'across/through' is identical with the trajector of *lát* 'see'.

[7] For questions of the figure/ground asymmetry in verbs of perception and mental attitude see Langacker (1987, 234).

Although both *át* and *lát* retain their basic characteristics (as indicated in (7) and (8), they both can function as relatively independent predicates), they have some effect on each other, thus transforming their semantic pole. The most important effect seems to be the change in conceived time and space. In the case of the perception relation *átlát* is a perfective verb. The verb *lát* 'see', originally imperfective, open ended, becomes a perfective verb with a definite end by the trajector of *át* as a goal arrived at by the first landmark. Within the same process, that is while the temporal features of *lát* are determined by the spatial features of the verbal prefix, the semantic pole of *át* itself as an atemporal relation becomes something like a symbolic unit with summary scanning.[8] In other words: the semantic poles of the independent morphemes (a) *át* (atemporal spatial relation) and *lát* (temporal relation, imperfective with sequence scanning) become (b) *át* ("pseudo" temporal spatial relation with summary scanning) and *lát* (temporal relation, perfective with sequence scanning; this interpretation is a bit different from the one in Langacker (1991, 22) set as "complex atemporal relation").

4. Verbal prefix + verb composition as blending

Blending theory, based on the notion of mental spaces elaborated by Fauconnier (1994 [1985]), and worked out in Fauconnier Turner (1996); Sweetser (1999) etc., has some advantages in dealing with the phenomena presented above in comparison with conceptual metaphor theory. As Grady Oakley Coulson (1999) sums up, conceptual metaphor theory interprets metaphors in the stable and systematic relation of two conceptual domains, while blending theory uses four or even more mental spaces, "partial and temporary presentational structures" to interpret any semantic compositions, not only metaphorical ones (as in Sweetser 1999). In the most widely used model the two input spaces have more or less correspondences between each other, they have some shared conceptual content in the generic space, and their conceptual structures are combined in the blend space. In the present case the verbal prefix and the verb are the two input spaces with their conceptual structures.

[8] As Langacker (1987, 248) states: "Summary scanning is basically additive, and the processing of conceptual components proceeds roughly in parallel. [...] This is the mode of processing characteristics of things and atemporal relations [...]."

4.1. The blending of *át* 'through/across' and *lát* 'see'

It seems that all the relevant components of the semantic compositions of *átlát* have been mentioned. However, it is reasonable to complete the above analysis with the theoretical frame of conceptual blending (cf. Fauconnier 1994 [1985]; Sweetser 1999). The morphemes *át* 'across/through' and *lát* 'see' form two different mental spaces processed by the verb *átlát* in the cognitive relation, and the two mental spaces form a blend:

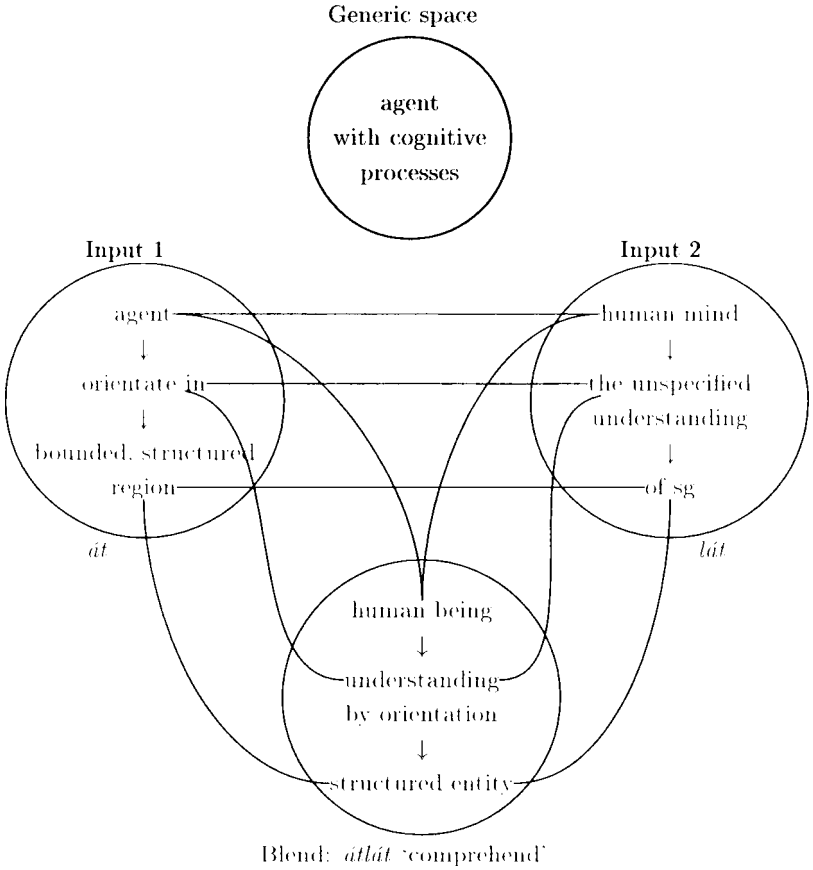

Fig. 7

The cognitive distance of the two inputs of blending is not as large as that of the examples by Sweetser (1999)) and others, nevertheless they are distinct enough to consider them as two different and elaborated mental spaces. The above explicated blend and all the other ones recognizable in the complex words (verbal prefix + stem) enumerated in Tables 1–6 are highly entrenched, but since independent syntactically to a certain degree, the blending as a process is dymanic enough.

If we take the blending of *át* 'across/through' and *lát* 'see' as a semantic composition in the preception relation, Figure 8 represents the process:

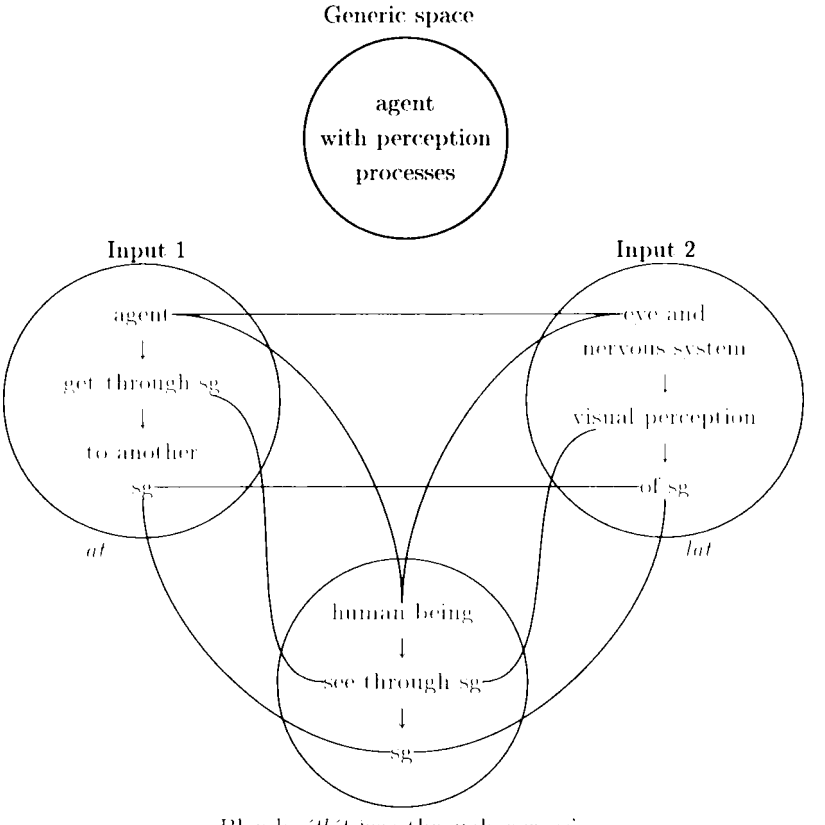

Fig. 8

In Figures 7 and 8 solid horizontal lines represent cross-space coresponderices (mappings between input spaces), curved lines represent projections between spaces.

It is the system of mappings between the two blendings depicted in Figures 7 and 8 that constitute the meaning 'understand' of *átlát* and make it possible to form an expression in the conceptual metaphor UNDERSTANDING IS SEEING.

A parallel, but slightly different example may illuminate further the semantic composition analyzed here. The verb *átérez* 'be sensible/aware of sg, feel significance of sg' has the same structure: *át* 'across/through' + *érez* 'feel', where the verb *érez* 'feel' represents an emotional processing of a situation, etc. as a spatially comprehendable structured entity. *Áttekint* 'look across' and 'have a global understanding' and *átfog* 'grasp' and 'span, comprehend' may also be mentioned as similar semantic compositions by blending and also belonging to the two conceptual metaphors detailed here.

4.2. Verbal prefixes and space

To continue the elaboration of the preliminary assumptions, let us investigate briefly the spatial system created by the verbs of "understanding" and "knowledge" by the blending of the mental spaces represented in the verbal prefix and the verb stem. First it has to be noted that the verbal prefixes occurring in the above list all have a meaning of spatial orientation. The most important ones are:

(9)

át	'across/through'
be	'into'
bele	'into'
félre	'aside'
hátra	'to the back'
keresztül	'through'
ki	'out'
meg	(its present-day meaning is perfective, originally *mög* 'the back of sg')
oda	'there, in that direction'
rá	'onto'
szét	'apart, in different directions'
túl	'beyond, over'
utána	'after'
végig	'to the end'

All these verbal prefixis can be found in the lists presented in Tables 1–6, mainly with the verbs *lát* 'see' and *néz* 'look'. Of course, these verbal prefixes form many other constructions with other verbs, constituting completely different blends, although their spatial orientation always has its role in the semantic composition.

With regard to the cognitive relation of "understanding" and "knowledge" this system includes the following spatial orientations: |INTO|, |IN|, |ACROSS, THROUGH|, |AROUND|, |OVER|, all implicating the specification of source-path-goal "from one side/end through/around/over the inner parts to the other side/end".

The system of verbal prefixes was formed between the 10th and the 15th centuries AD. As mentioned in footnote 5, the most ancient verbs of understanding and knowing in Hungarian belong to the conceptual metaphor UNDERSTANDING IS GRASPING: *ért* 'understand, progressive', *megért* 'understand, perfective', *tud* 'know' are all common in their etymology: their Finno-Ugric stem meant 'touch, grasp'. Since there are no data of these verbs found in Hungarian with any meaning not belonging to the conceptual metaphor, it may be assumed that those verbs detailed above (*lát* 'see', *néz* 'look') acquired their metaphorical meaning of understanding and knowing later. The more sophisticated compositions that give some detail (way, mode) of understanding and knowing were formed even later. Thus the ancient verbs take the entity to be comprehended or known as a thing, an object. Moreover this object is considered as a whole which can be approached only from outside, that is, it can only be touched or grasped as a whole from the outside (see the etymologies and meanings of *ért, tud*). This kind of conceptualization is in complete accord with what Sweetser states:

> "physical manipulation and touching is a source of domain for words both of sight (visually picking out a stimulus) and a mental data-manipulation (grasping a fact understanding). |...| Grasping and manipulation are evidence of control" (Sweetser 1990, 38).

But in the case of the historically later verbal prefix + verb stem compositions the spatial relation conceptualizes a source-path-goal image schema in every case with a visual or tactile relation, in its trajecetor-landmark relation also conceptualizing a source-goal relation. The source-path-goal image schemata in the verbal prefixes represent different kinds of approaches to the entity to be comprehended, considered as an object, too, but this time not only as a whole, but as a whole consisting of parts and relations. The different spatial orientations result in different source-path-goal approaches to an entity that can be comprehended. In these cases the blends represent penetration and internal orientation or different overviews, insights instead of simple touching. All the derived nouns, verbs, and adjectives emerging from these verbs have the same conceptual content. Thus control is only the result of the processes conceptualized by these verbs.

It can be assumed that the entity to be understood or known is considered an object in the folk theory manifested in Hungarian, but an object with inner structure that can be understood or known in a dynamic process.

5. Conclusions

As the above analysis has proved, in Hungarian a complete spatial system is built up conceptually, concerning "understanding" and "knowledge". This system is universal in its cognitive basis, but has language specific morphological and semantic features: the verbal prefix conceptualizes a spatial relation between an actor and an entity to be approached, the verb conceptualizes a cognitive process of understanding, and the two form semantic compositions prior to the conceptual metaphors. These semantic compositions are formed by a non-metaphoric type of blending. One input is the verbal prefix profiled by orientation in space, the other input is the verb profiled by the process of cognition. The goal of understanding or the representation of knowledge is considered to be an entity, something like an object independent of man, but this object is conceptualized as a structured entity.

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MORPHOPHONOLOGY AND THE HIERARCHICAL LEXICON*

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Abstract

That morphology has to have an interface with both syntax and phonology is a commonplace in linguistics. Separating phonological and morphological information results in redundant duplication of information and is bound to resort to unmotivated diacritic annotation of properties relevant at the interfaces with other levels. This supplies motivation for such approach to grammar in which the representational levels of linguistic knowledge are integrated. Such an integrated model of language questions the autonomy of linguistic modules and attempts to represent the intricate correlations between the various levels of linguistic representation directly by assuming a homogeneous architecture. These tenets are embraced by most monostratal theories of grammar. In this spirit we provide a novel account of a number of phenomena of Hungarian morphophonology using the concept of hierarchical lexicon.

1. Hierarchical lexicon

The notion of a **hierarchical lexicon** has been around for a while and has gained broad acceptance in constraint based theories of grammar. Since it first appeared as a crucial component of mainstream declarative lexicalist approaches such as HPSG (cf. Pollard Sag 1994), it has proved to be a useful device for stating generalizations on various kinds of linguistic knowledge.

1.1. Multidimensional typing

Linguistic tokens that are indistinguishable for the grammar are to be treated as identical lexical signs. This is achieved by assigning to each sign a unique symbolic representation, e.g., a set of constraints relevant to distinguish types that are contrasted. These constitute the instances of the hierarchical lexicon.

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These are called maximal types because they are maximally informative. Non-maximal types in a hierarchical lexicon emerge by way of generalizing over instances. Any arbitrary set of instances can yield such abstract types, which are characterized by those pieces of information that are shared among the instances.[1] The hierarchy of types then is defined by the information content in the types: the more information a type specifies, the lower it is in the hierarchy. This partial order is usually referred to as **informational subsumption**. Surely, there are numerous possible aspects of the same set of instances which can give rise to abstractions. These abstractions result in a potentially cross-cutting classification of instances.

In the case of phonology, we should think of instances as surface representations of particular phonological domains. It is these surface forms which are directly generalized to yield phonological characterizations of certain classes of forms, regardless of whether the class is morphologically defined or not. For instance, we can imagine lexeme types (corresponding to a stem morpheme, e.g., Hungarian *sark* 'pole') and affix types (corresponding to a suffix morpheme, e.g., plural). These two sets of types partition the same universe (say that of the suffixed forms in the nominal paradigm). It is only different aspects of the same surface forms that give rise to the distinct abstractions. This entails that instances do not belong to a unique type, instead they are assigned to an array of non-subsuming types. This array basically represents the **dimensions** in which the instance in question is classified, whereas its members stand for the actual class the item belongs to in a given dimension. For instance, stem classes emerge by generalizing with respect to the stem part of surface forms, whereas types corresponding to suffixed forms are sensitive to the suffix part. Such an architecture is called a **multi-dimensional type hierarchy,** which we assume to be the model of the mental lexicon.[2]

In principle, these dimensions are thought to be **orthogonal**, i.e., the choice of a particular type in a dimension is independent of the choice in another dimension. In actual fact, however, the different aspects of linguistic information are orthogonal only in conceptual terms and characteristic properties

[1] The actual types might not only be motivated by internal factors such as common properties, but also by external factors, such as invariant semantic properties (lexeme, semantic category, etc.) or distribution in larger domains (syntactic category, morphological case, etc.). Such external factors are responsible for idiosyncratic lexical classes.

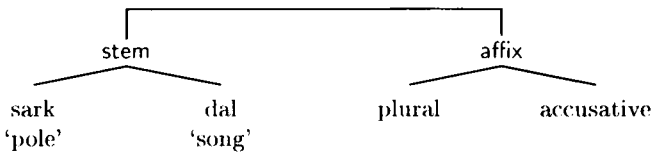
[2] The idea of multiple dimensions in linguistic knowledge representation was first used in Sag (1997). For a detailed exposition of the formal properties of orthogonal typing, we refer the interested reader to the work of Erbach (1994; 1995).

of the conceptually orthogonal classes show a non-arbitrary correlation in a great deal of cases. This yields an intricate network of implicational relations between types in different dimensions. These **inter-dimensional implications** receive a prominent role in our analysis of morphophonology which we present in the following sections.

1.2. Nominal paradigms in an orthogonal type-hierarchy

By allowing multi-dimensional typing, it is natural to think of word paradigms as an orthogonal inheritance hierarchy of partially instantiated forms, with one dimension specifying the stem and another the suffixation information.[3] Forms might be additionally specified for a number of dimensions. These include dimensions controlling the parsing of melodic content into various types of domains (e.g., autosegmental tiers) or larger prosodic constituents (e.g., syllabic constituents, cf. section 2). In (1) we sketch what such a lexical hierarchy might look like. The small fragment in (1) contains some of the types relevant to our analysis of Hungarian discussed below.[4]

(1) Multidimensional lexical hierarchy



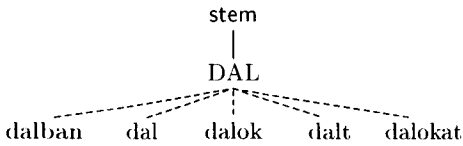
The partial hierarchy under stem is the dimension in which the generalizations regarding the stem of complex forms are made. Intensionally, a type in such a dimension is best thought of as a lexeme, whereas extensionally it denotes the whole paradigm of the given stem.[5] The stem is basically the type that generalizes those paradigmatic forms the stem of which is the same. Type stem, then, is characterized by the set of properties that are extracted out of the surface forms in the given lexeme's paradigm.

[3] Recent work in constraint based lexicalism (cf. Abeillé et al. 1998; Sag Miller 1997; Koenig 1994, among others) embraced very similar ideas on lexical organization also represented in some version of a type hierarchy.

[4] The actual choices we are making are not particularly important here, so we do not give detailed arguments to defend them.

[5] "Paradigm" is used here in a most general sense. We remain agnostic as to which affixed, derived or compound forms are to be treated with such a paradigmatic membership.

(2) The stem dimension



Since lexical types are characterized by all the properties that are shared by its subtypes, phonological generalizations about surface forms could be extracted out of instances "automatically". This could happen irrespective of whether the various dimensions of generalizations correlate necessarily or only accidentally. With **inter-dimensional type constraints,** we can express intricate implicational relations between the various levels of linguistic representation. This will turn out to be the gist of our analyses. In order to be able to talk about phonotactic dimensions, we need to develop a phonological representation. This is the topic of the next section.

2. Licensing and constructions

2.1. Melody and prosody

In Autosegmental Phonology the widely accepted way of representing phonological expressions makes a sharp distinction between melody and prosody. The melodic part of the representation contains relevant features which are needed for making distinctions between different segmental qualities. The prosodic representation is composed of various domains structured in a constituency tree, all being built on top of segmental positions. The two parts of the representation are different from each other in their formal character: melody usually utilizes a geometrical structure of features (Feature Geometry, see Clements 1985), prosody is considered as a structure of different levels of constituents (as morae, syllables, feet, etc.). This twofold representation requires a formal device taking care of the link between melody and prosody. In most theories a sequence of skeletal positions is assumed: these positions (skeletal slots) serve to "hold" the root node(s) of feature structures in the melodic representation of segments, and, at the same time, count as terminal symbols in prosodic constituency. This twofold representation is quite questionable.

In our view, syllabic constructions, which determine the phonotactics of a language, just as segments themselves, are not more than generalizations of attested constellations of melodic and rhythmic elements in a certain domain

of the utterance forms. Therefore there is no reason to treat them any more distinct than generalizations about domains and their subdomains normally are. The representations we assume, then, assume uniformity of melodic and prosodic constructions. In particular, we think that prosodic constructions emerge as generalizations over existing surface forms. Those constellations which can occur independently of the context are extracted as the autonomous building blocks of phonological domains, and are called **prosodic licensing constructions.**

2.2. Licensing constructions

These prosodic constructions have a role in determining the surface form of forms computed on-line. It is these constructions then that legitimate certain configurations of melodic elements in a morphologically defined domain. In other words, we can say that when possible phonological representations corresponding to morphemes are assembled, licensing constructions "parse" their melodic content into **licensing domains.**[6] In our constraint-based framework, however, this is achieved simply by unifying (putting together) various pieces of (partial) information, e.g., melodic content of morphemes or licensing constructions related to phonological domains. These pieces of information are present in the construction types which constitute the hierarchical lexicon.

[6] In Strict CV Phonology (conceived by Lowenstamm (1996), for a detailed discussion see Szigetvári 1999), as opposed to other prosodic theories, flat phonological representations are assumed without evoking syllabic constituency. In this theory prosodic representations contain a sequence of alternating Cs and Vs (standing for consonant and vowel, respectively). The phonological structure involves strictly local and directed relations between skeletal slots adjacent at some level. The **Licensing Principle** states that every position in a phonological domain should be licensed. **Licensing Inheritance** of Harris (1997) allows a position to transmit its licensing potential to other positions. (The concepts of licensing and government come from the **Government Phonology** tradition, see Kaye et al. 1990).

Rebrus (2000a) reduces different licensing (and government) relations to four. This latter approach argues that licensing is defined by the domain it is applied to, i.e., each type of licensing can be replaced with a licensing domain. Though with less commitment to other tenets of CV phonology, this paper is basically exploring the same idea, inasmuch as our **phonological constructions** can be considered as licensing domains.

2.3. The canonical CV construction

The most unmarked construction, which we shall call **canonical CV construction**, is itself a licensing relation. This is the licensor of the most unmarked syllable type in the world's languages, the CV syllable. If in a language only interpreted vowels are allowed to license their preceding onset, then the language is a **strict CV language**. In such a language, the inventory of syllabic licensing constructions is not very sophisticated: it is restricted to the most unmarked licensing configuration, the canonical CV construction. We take this construction to be the central building block out of which the larger prosodic domains, such as the phonological word, are composed.

This prosodic construction licenses an onset and a nucleus. To put it in another way, it is a generalization of all types of segmental configurations that figure in open syllables. Hence a canonical CV construction contains two entities: a consonantal (C) and a vocalic (V) entity.

(3) The canonical CV construction

$[^{\sigma}$C V]

Since both C and V are generalizations of segment types, which are, in turn, considered as constellations of melodic content within a segmental domain, we can think of C and V as **segmental constructions** that the syllabic construction **embeds.** Since segmental properties besides vocalicness are relevant in phonotactic constraints, the melodic (segmental) construction types are a legitimate aspect of prosodic constructions. In other words, syllabic constructions may select the segmental constructions they embed.

In the examples we use straightforward symbols other than C and V, e.g., N for nasal or P for plosive, standing for those generalizations over segmental qualities that are relevant in the examples. The autonomous status of the canonical construction implies that the concatenation of two (or more) CV constructions can form a phonologically well-formed expression. For example, the surface form of a nominative stem can have the following (parsed) representation:

(4) Graphical notation for prosodic licensing

kapu 'gate'

$[^{\sigma}$k a] $[^{\sigma}$p u]

Autonomy is apparent in the case of canonical CV syllables, but generally there are several constraints which condition this concatenative pattern. For

instance, stress patterns can exclude certain CV constructions in unstressed positions (e.g., vowel reduction in English), or vowel harmony and assimilation restrictions can constrain adjacent V–V or C C sequences, respectively (as in Turkish and Russian, for example). These constraints can be formulated by postulating other prosodic constructions. Some of these constructions will be discussed below; however, a detailed analysis goes beyond the topic of this paper.

2.4. Complex constructions

There are languages in which consonantal and vocalic segments do not strictly alternate, for example there exist morphemes containing two adjacent consonantal segments. This situation has been analysed traditionally by assuming an additional syllable type, the closed syllable, in which the nucleus is followed by a consonant. Such a syllable can be characterized by the syllabic domain of a (C)VC pattern. The final consonants in these syllables are referred to as their **coda** constituent.[7]

Languages exhibiting these types of complex syllables have to have additional prosodic constructions besides the canonical CV type. However, syllables with a coda are not independent of ones without it. The inventory of possible onsets and (short) nuclei is independent of whether the syllable has a coda or not. This prompted us to reconsider the traditional views of syllabic constituency. Instead of postulating onset and rhyme components, it is more desirable to think of the coda construction as an extension of the canonical syllable type in some sense. We choose to represent this fact by saying that the coda licensing construction embeds the canonical CV construction, and additionally contains a consonantal segment, called the coda entity.

(5) Coda construction

$[^{coda}[^{can}C\ V\ ]\ C\ ]$

Note that syllabic constructions are supposed to represent constellations of melodic material which can figure as building blocks of some surface forms relatively independently of their context. In this respect the autonomy of coda

[7] Complex syllables may also appear in the form of complex C and V: they are traditionally called complex (or branching) onset (CCV) and nucleus (CVV), respectively. This extension of the CV pattern resulting in complex syllables are not dealt with in the present paper; instead we concentrate on syllabic constructions resulting in consonant clusters.

constructions is questionable. The set of possible coda entities is restricted in most languages. The segmental quality of the coda, and its very status as a coda, usually depend on the consonant following it. In other words, the **consonant cluster** as a whole is restricted.

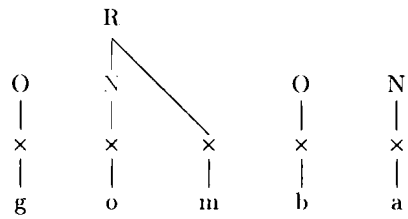
The phonotactics of languages seems to show markedness effects with respect to these clusters. If a cluster exists in a language, then all of the less marked clusters also exist. Markedness is multi-dimensional, which means that markedness scales with respect to the coda consonant can be stated only relative to the second consonant. Therefore, we keep the second consonant constant, presenting the markedness order with plosive fixed as the second consonant. We schematically sketch in (6) what such a markedness order looks like.

(6) Markedness scale of coda-onset clusters

(a) identical plosives (geminate)	LESS MARKED
(b) homorganic nasal+plosive (partial geminate)	
(c) liquid+plosive	↕
(d) fricative+plosive	
(e) plosive+plosive	MORE MARKED

The usual way to express markedness as given above is to assume that the coda constituent as well as the segmental material associated to it has to be licensed by a following consonant. In Government Phonology, this is called **Coda Licensing** (see Kaye et al. 1990; Kaye 1990), and is depicted in (7).

(7) Coda licensing in GP (in Hungarian *gomba* 'mushroom')



One direct implementation of coda licensing (domains) is to introduce a new general construction type. This **C cluster construction** regulates the occurrence of coda+C sequences. Since now we are not concerned with how codas depend on the preceding nucleus, we represent cluster constructions in isolation as being composed of two consonantal entities.

(8) C cluster construction

$[^{c\ clust}C\ C\ ]$

Coda entities, then, are thought to be licensed in terms of both their left and right contexts, by the coda construction and the C cluster construction. No coda can appear without the additional licensing by some right context construction like the C cluster construction. Exactly because of this, the coda construction cannot be equated with the notion of a closed syllable, since it is not a building block.

2.5. Complex codas on the right periphery

It is well known that languages do not treat domain-internal and domain-final "codas" alike. For example, Italian only allows open syllables domain-finally, whereas word-internally only sonorants are allowed in coda. In Ancient Greek we find plosives in domain-internal coda position, but these are excluded on the right periphery. These and similar kinds of restrictions are common in languages as exhaustively analysed in Piggott (1999).

Despite these obvious differences, domain final consonants are considered to be codas by most phonological theories just as the first consonants of intervocalic clusters (cf. Blevins 1995; GP being an exception: cf. among others Harris–Gussmann 1998, categorizing final Cs as onsets). While reserving categorical judgements on such theoretical issues, we take it for granted that well-known edge-effects necessitate the postulation of constructions licensing peripheries of phonological domains.

The same applies to consonant clusters at the right periphery: intervocalic and domain final consonant clusters show a different distribution. Nevertheless, it is usual to refer to the latter as complex codas. Interestingly, however, the markedness scale of complex coda clusters exactly parallels that of intervocalic coda onset clusters.

Similarly to the case of coda constructions, in our analysis domain-final constructions are thought to be complex in the sense that they embed a C cluster construction. Without going into the details about domain final licensing, we show how such a construction can be visualized:

(9) Domain-final licensing construction

$[^{d\ f\ clust}[^{c\ clust}C\ C\ ]\ \#\ ]$

Embedding is not simply meant as a device to avoid redundancy of constructions: it has theoretical significance. Since the availability of a complex construction implies that of its components, some markedness implications can be straightforwardly derived.

2.6. Licensing constructions in the hierarchy

Based on this intuitive notion of embedding, we can have a way to explicitly implement our inventory of constructions in a hierarchical lexicon.

We propose that complex licensing constructions are built on top of the canonical CV by supplying additional structural information. The canonical CV construction as an autonomous licensing domain has a more impoverished informational content than the coda licensing construction. If we were to impose an ordering on constructions with respect to information content, the canonical construction would subsume (be more general than) all the other prosodic constructions as shown below:

(10) Constructions and subsumption

$$\begin{array}{c} [^{can}\,C\ V\ ] \\ | \\ [^{coda}[^{can}\,C\ V\ ]\ C\ ] \end{array}$$

This informational subsumption, or order of structural complexity, we believe, is the basis of many (if not all) markedness effects in phonology. The more information content a certain construction has, the more marked it is.[8]

If segmental representation are thought of as constructions composed of privative melodic primes (elements), such a subsumption is based on a subset relation.[9] Harris (1997; 1999) demonstrates how typical lenition trajectories can be equated with paths of gradual loss of information. In particular, lenited reflexes of segments contain a subset of the melodic primes of the variant phone in a strong position. Positional neutralization as well as markedness effects arise because certain structural positions are able to support only a reduced

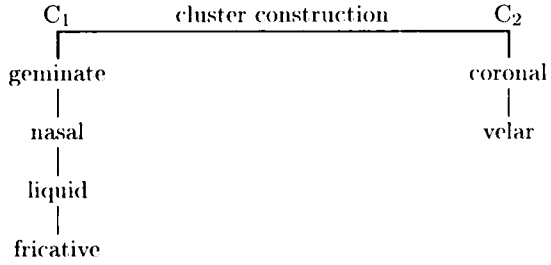
[8] For segmental constructions, subsumption is similarly straightforward: natural classes of segments define a partial order, e.g., [m] is nasal, a nasal is a stop, a stop is a consonant. The classification, however, is applied in independent dimensions: [m] is labial like [p], [f], [w] etc.; and nasals are sonorants like liquids, glides, etc.

[9] In this respect we sympathize with the work of Harris and Lindsey (Harris 1990; 1997; 1999; Harris Lindsey 1995; Lindsey Harris 2000).

inventory of phonemic contrasts. By the same token, our syllabic constructions impose limits on the amount of segmental melodic information they can contain. As a result certain markedness effects resulting from segmental complexity replicate themselves in the case of prosodic constructions.

Since licensing constructions are naturally subsuming in some sense, we arrange them in the same multidimensional type hierarchy as the one described in the previous section. In this hierarchy then, types correspond to families of constructions. We expect that the subsumption relation is a natural reflex of universal markedness hierarchies. The following tentative hierarchy serves only to illustrate the way our representation works.

(11) Hierarchy of C cluster constructions



The figure in (11) depicts a tentative hierarchy of coda constructions (cf. (5)). The types in the hierarchy are meant to be ordered with respect to information content, i.e., the lower a type is, the more information it contains. Since information content is the direct reflex of complexity, which is in turn the reflex of markedness, a domain licensed by a construction type A is more marked than one containing only some supertype of A. This is to say that, for instance, the word *sark* is more marked than *sakk*.

2.7. Lexical strata

Itô and Mester (1995) discuss some phonotactic restrictions in Japanese. They reach the conclusion that languages are not homogeneous as regards their phonotactics. There are various phonological **strata** of language. A stratum is actually a class of words with its characteristic phonotactics. The phonological constraints that are operative among members of the strata define co-phonologies of the given language. Inspired by this notion of stratum, we set out to implement the idea of phonotactically stratified lexicon in a hierarchical lexicon.

Technically we take it that certain morphological or lexical classes can restrict (among others) the range of licensing constructions "available" for parsing phonological forms of its members. In the form of limitations on availability of prosodic constructions, licensing is rendered a legitimate aspect of **lexical** information. This is expressed by some implicational constraints pointing from some lexical type into the space of phonotactic constraints. The arrows in (12) simply depict such type implications.

(12) Lexical stratum with its characteristic phonotactics

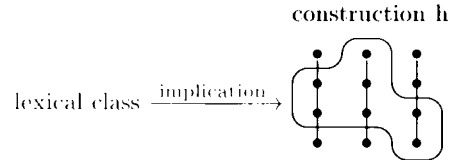
lexical class $\xrightarrow{\text{implication}}$ available constructions

Interestingly, the phonotactic strata of language are not totally arbitrary, rather they are natural classes of universal phonotactic typology. Natural classes cut out contiguous ranges in each phonotactically relevant markedness scale.

Since the various dimensions of markedness are represented as the various dimensions in the hierarchy of licensing constructions, and the ordering of construction types is thought to be based on informational complexity, contiguous ranges in markedness dimensions can be defined by specifying minimal and maximal limits on the complexity of licensing constructions in a given dimension of the hierarchical lexicon. Characterization of a restrictive lexical stratum, which involves the selective reference to available prosodic licensing constructions, then, simply boils down to referencing some types in the subhierarchy of licensing constructions. The concept of a multidimensional hierarchical lexicon proves to be especially well-suited to represent phonotactic stratification in the lexicon.

However, we are not sure about the details of how the construction hierarchy and the actual markedness dimensions should be structured. Therefore, we only use informal though hopefully suggestive figures, such as the one in (13): the set of available constructions is depicted as an encircled space in the subhierarchy of licensing constructions. The arrow pointing from the lexical class is there to suggest that the encircled space is in principle expressed by a series of type implications.

(13) Lexical stratum with its characteristic set of licensing constructions



Is there any sense, however, in which phonotactic typology of this type can be used in synchronic descriptions of a particular language? We argue that the answer is in the affirmative.

3. Types of suffixation and phonotactics in Hungarian

In this section we illustrate how our framework can be used to account for some aspects of the non-analytic nominal paradigm in Hungarian.

We concentrate on two suffix types within the nominal paradigm, the plural[10] and the accusative.[11] Additionally we are interested in nominatives, which is identical to the base form of stems used in analytic suffixation. We ignore multiple suffixation, so we only discuss nominative plural and accusative singular forms. Since spelling is quite straightforward, we use the orthographic form instead of phonetic transcription when supplying Hungarian data.

3.1. Plural

Plural forms in Hungarian unexceptionally end in *k*, which is attached directly to the stem if it ends in a vowel. In cases when the stem ends in one or more consonants, a mid vowel appears before the suffix. Since this vowel alternates with zero, it is usual to refer to it as "epenthetic". Though this term has a derivational flavour, we will use it in the neutral sense in the description of the data. The quality of this epenthetic vowel depends on the stem, and is entirely predictable in the productive case. The determining factor is vowel harmony. Hungarian vowel harmony is a much-discussed topic in the phonological literature (see Hulst 1985; Ringen Vago 1995; Rebrus 2000b, 786 803).

[10] Though we refer to the plural throughout this paper, it is meant to stand for a larger class of suffixes, including the possessive, noun-to-verb derivational suffixes, etc., the exact form of which are in no way relevant to the present discussion.

[11] Hungarian is a language with an intensive agglutinative pattern. As is expected in such a language, a great deal of suffixes are simply put after base forms of the stem. Such an analytic pattern of suffixation is triggered by case suffixes, e.g., the inessive suffix morpheme *-ban* is put to a stem *dal* 'song' in a simple concatenative fashion to yield the form *dalban*. The group of suffixes discussed in this paper (i.e., the ones patterning with the plural and the accusative), in turn, have the common property that they might trigger stem-alternations, not attested with analytic suffixes, e.g., stem-internal epenthesis, see section **4.1.** For a detailed exposition of Hungarian phonology, we refer the reader to Törkenczy Siptár (1999), Siptár Törkenczy (2000) and Törkenczy (1994).

The facts are the following: harmony prescribes epenthesis of a front vowel if the last "trigger" vowel[12] in the stem is front, otherwise, it is back. There is also roundness harmony that is relevant with mid vowels. If the last vowel of the stem is front but not round, then the epenthetic mid vowel is unround *e*, otherwise it is round (*o* or *ö*).

(14) Plural in the productive nominal paradigm

NOM-SG	NOM-PLUR	GLOSS	QUALITY OF TRIGGER/EPENTHETIC VOWEL
l<u>a</u>k	lak<u>o</u>k	'dwelling'	back/*o*
m<u>e</u>z	mez<u>e</u>k	'strip'	front, unrounded/*e*
s<u>ü</u>n	sün<u>ö</u>k	'hedgehog'	front, round/*ö*

3.2. Accusative

The accusative morpheme *-t* triggers no epenthesis if the stem ends in a coronal nasal (*n*, *n^{y}*), liquid (*r*, *l*, *j*) or sibilant fricative (*sz*, *s*, *z*, *zs*; s ʃ z ʒ, respectively) (cf. section 5 for the "exceptions".) In other productive cases, a mid vowel is epenthesized before the suffix. The quality of this epenthetic vowel is determined by the same harmonic processes as in the case of plural. From now on, we ignore vowel harmony. The accusative pattern is depicted in (15), where the resulting clusters and the epenthesis contexts are underlined.

(15) Accusative in the productive nominal paradigm

NOM-SG	ACC-SG	GLOSS	STEM-FINAL CONSONANT
kan	ka<u>nt</u>	'boar'	coronal nasal
dal	da<u>lt</u>	'song'	liquid
rom	ro<u>mot</u>	'ruin'	non-coronal nasal
lak	la<u>kot</u>	'dwelling'	obstruent
sark	sar<u>kot</u>	'pole'	consonant cluster

Now it might be useful to compare the accusative and plural forms of some stems. The epenthetic vowel before the suffix is underlined:

[12] The vowels *é*, *i* are transparent with respect to harmony.

(16) Plural and accusative forms in the productive nominal paradigm

NOM-SG	NOM-PLUR	ACC-SG	GLOSS	STEM-FINAL CONS.
kan	kanok	kant	'boar'	coronal nasal
dal	dalok	dalt	'song'	liquid
motor	motorok	motort	'engine'	liquid
lak	lakok	lakot	'dwelling'	obstruent
sark	sarkok	sarkot	'pole'	consonant cluster

3.3. Phonotactic strata and suffix-types

Domain final clusters resulting from accusative suffixation closely resemble those attested in monomorphemic words. We might say then that epenthesis of a vowel is conditioned by the phonotactic constraints that are independently operative in the language. This is to say that accusative suffixed domains have the same phonotactic restrictions as monomorphemic stems. This is depicted in (17).

(17) Parallel phonotactics of accusative and monomorphemic stems

ACC-SG		GLOSS	MONOMORPHEMIC STEM
kant	*kanot	'boar'	hant 'grave'
dalt	*dalot	'song'	pult 'counter'
motort	*motorot	'engine'	part 'shore'
romot	*romt	'ruin'	
padot	*padt	'bench'	
sarkot	*sarkt	'pole'	

This situation, however, does not generally carry over to all other morphologically complex forms. This motivates the distinction between analytic and non-analytic suffixation. The former behaves as two phonological domains inasmuch as potential violations of phonotactic restrictions on monomorphemic stems may occur at the morpheme boundary. The latter is phonologically indistinguishable from monomorphemic stem domains. This dichotomy of analytic and non-analytic suffixation is accepted by many phonologists. Some also argue (cf. Kaye 1995) that, together with language-specific phonotactic parameters, it is also sufficient to explain the phonologically conditioned vowel/zero alternations.

Such a simple picture of two types of suffixation, however, is too weak to explain the Hungarian facts. This is already apparent if we look at the difference between accusative and plural forms.

Productive nominal stems of Hungarian allow a great deal of coda-clusters word-finally, including homorganic clusters like geminates and partial geminates, liquid+obstruent clusters, and a couple of others marginally. Even if one could argue that the set of possible clusters in the accusative is the same as those allowed in monomorphemic stems, a problem would remain. While undoubtedly a non-analytic suffix, the plural morpheme always requires an epenthetic vowel, i.e., is not allowed to form clusters. Whereas monomorphemic stems ending in C+*k* clusters abound, the corresponding hypothetical plurals are all ill-formed:[13]

(18) Attested clusters and restriction on plurals

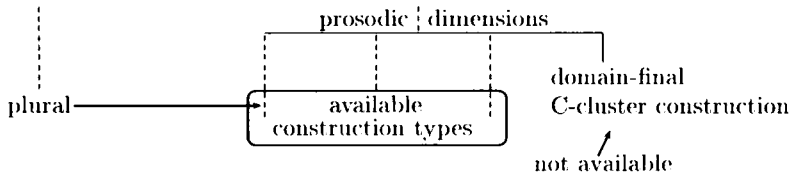
NOM-SG	NOM-PLUR		GLOSS	MONOMORPHEMIC STEM
kan	kanok	*kank	'boar'	rönk 'stump(wood)'
far	farok	*fark	'bottom'	sark 'pole'

In sum, the phonological domains defined by the accusative and plural forms have different phonotactics. The moral of this is that even if one equates the phonotactics of accusatives with that of regular monomorphemic stems (nominative),[14] phonotactic constraints on plural forms are more restrictive, therefore require special treatment anyway. We do not want to use unmotivated representational devices which will distinguish the *k* of the plural morpheme from the *k*s in other morphemes. Other (e.g., derivational) devices are, however, not available in the declarative framework we are using. Instead, we choose to encode the facts directly without any tricks: **by relegating plural forms to a different phonological stratum of the language**. This is carried out by an interdimensional implication between the morphological and the prosodic dimension. In particular, the plural prescribes that the domain-final construction is not available for parsing forms. This is depicted in (19).

[13] The same can be said about the other suffixes that pattern with the plural. For instance, the possessive suffix *-d*, when put to *kar* 'arm' yields the form *karod* 'your arm', though forms like *kard* 'sword' are attested.

[14] There is good reason to assume that they only overlap. Stop-final stems trigger epenthesis with the accusative, though such stop+*t* clusters are attested in monomorphemic forms, such as *akt* 'nude figure' or *korrupt* 'corrupt'. And conversely, the n^y-final stems productively disallow epenthesis with the accusative, though $n^y t$ clusters do not occur at the end of a monomorphemic word.

(19) Plural forms have restricted phonotactics



As a result of the above constraint, plural forms cannot be parsed using domain-final complex coda constructions. This will result in an epenthetic vowel between the stem and suffix.

(20) Parsed representations of plural forms

(a) ungrammatical parse

[^{coda}k a [$^{d.f.clust}$n] k] ←——— dom-final C cluster is unavailable

(b) grammatical parse

[^{can}k a] [^{coda}[^{can}n o] k] ←— available

The above analysis illustrates in what sense phonotactic stratification can be put to use to represent (and possibly explain) the phonological patterns of suffixation. In the next section we turn to more sophisticated instances of Hungarian morphophonological phenomena and show how the framework we developed can handle them.

4. Exceptional classes in the nominal paradigm

4.1. Epenthetic stems

There is a class of Hungarian nouns which show a peculiar vowel/zero alternation in their paradigmatic forms. The epenthesis site is between the last two consonants in the stem, therefore it will be referred to as **stem-internal vowel–zero alternation.** In the traditional literature, stems showing stem-internal epenthesis are called **epenthetic stems** (cf. Vago 1980; Siptár Törkenczy 2000, 214 68; Rebrus 2000b, 804 31).

(21) Some paradigmatic forms of epenthetic stems

NOM-SG	NOM-PLUR	ACC-SG	GLOSS
sarok	sarkok	sarkot	'corner'
bokor	bokrok	bokrot	'bush'
átok	átkok	átkot	'curse'

In the great majority of cases, the quality of the epenthetic vowel is mid and is determined by the harmonic processes triggered by the last non-alternating vowel (see the previous section). The epenthetic vowel only appears in the base form (i.e., in nominative case and in the base of analytically suffixed forms). This type of stem-internal epenthesis is restricted to a closed class of nominal and verbal stems, each ending in a VCVC pattern in its base form. The fact that a certain stem is epenthetic or not is to some extent an arbitrary lexical property and cannot always be predicted from the segmental content of the lexeme. This can be easily justified by the following pair of nouns:

(22) Stem-internal epenthesis is unpredictable

NOM-SG	NOM-PLUR	ACC-SG	GLOSS	
sa<u>r</u>o<u>k</u>	sarkok	sarkot	'corner'	epenthetic
sa<u>rk</u>	sarkok	sarkot	'(North) pole'	non-epenthetic

Stem-internal epenthesis raises the following problems:

- Given that epenthesis is confined to a non-productive closed class of items, is there any point in trying to give it an explanation, i.e., a computable representation?
- What kind of annotation should such idiosyncrasies receive that allows a natural connection to the phonological facts?

In the next subsections, we make an attempt to provide answers to both questions.

4.2. Epenthesis and the structure of the lexicon

Let us take the representation of an epenthetic stem, e.g., *bokor* 'bush'. Since its vowel alternates throughout the paradigm, the vowel is simply missing in the lexeme's representation.

(23) (a) The epenthetic stem type for *bokor* 'bush'

BOKOR
[^{can}b o] k r

(b) The epenthetic stem type for *sarok* 'corner'

SAROK
[^{can}s a] r k

Note that the two stem-final consonants are not parsed into any prosodic licensing construction since its licensors do not remain the same due to epenthetic alternation in the paradigm. Let us suppose that an epenthetic construction is freely available in the stem domain similarly to the case of plural formation. In this case the plural of *bokor* can be computed simply by unifying the stem description with that of the plural type and try to parse the stem in licensing constructions. In principle we would have the following parses:

(24) Possible parses for the plural of *bokor* 'bush'

(a) **bokork*

[b o] [^{coda}[k o] [$^{ed\text{-}f\ clust}$ r] k] ⟵ not available for the plural

(b) *bokrok*

[^{coda}[b o] [$^{ed\text{-}f\ clust}$ k] [^{coda}[r] o] k] ⟵ available

Constraints on the plural form (cf. (19)), however, limit the word to simplex domain-final codas, therefore, analogously to (20), **bokork* is sorted out and *bokrok* "wins".[15]

Things so far have not led us to any commitment about the characterization of epenthetic stems as an exceptional class. Things, however, are more complicated when it comes to the nominative. Seemingly, the above argumentation would naturally give us *bokor* as the nominative of the stem in (23a):

[15] The form *bokorok* is ruled out on grounds of "economy". We need not use any complicated notion of economy or optimality here, since the melodic content of the two alternatives are in a subset relation, so a principle saying "the fewer the better" will do. Törkenczy (1995) proposes a very similar treatment in terms of Optimality Theory.

(25) Possible parses for the nominative of *bokor*

(a) **bokr*

[[b o] [k] r] ⟵ not available

(b) *bokor*

[b o] [$^{\text{coda}}$[k o] r] ⟵ available

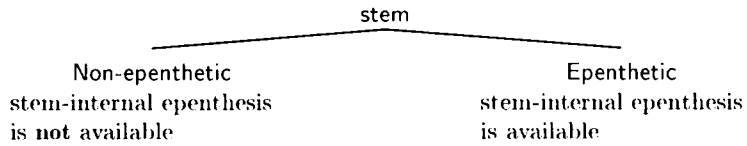
Here, we face no problem when saying that *kr* is not legitimated by some domain-final cluster construction, since this is in fact an unattested pattern of word endings. There is no way, however, to distinguish epenthetic stems from regular ones if the final two consonants would constitute a legitimate cluster, i.e., one that is attested domain-finally in monomorphemic stems. This is the case with the words in (22), *sark* 'pole' (non-epenthetic) and *sarok* 'corner' (epenthetic).

There is also another problem here. If epenthesis is not lexically determined but a freely available option provided by phonology, then there is no way to block epenthesis in stems which do not end in a legitimate cluster and still do not epenthesize. This seemingly paradoxical situation does happen in the case of defective stems, i.e., stems that lack a base form. For instance, the stem *magv-* can be abstracted out of existing forms such as *magva, magvak, magvai,* etc. 'seed (poss, plur)', but this stem has no singular nominative form (nor singular base forms).[16] As a consequence, vowel epenthesis should not be a productive process available each and every case it is otherwise motivated.

The above problems are solved if the possibility of epenthesis is not self-evident, i.e., there has to be a positively characterized class of word-forms in which stem-internal epenthesis is available. No matter how this is stated, it is tantamount to declaring two subtypes within the nominal stem dimension. One stands for the class of stems disallowing stem-internal epenthesis (Non-epenthetic) and the other for those **potentially** allowing it (Epenthetic).

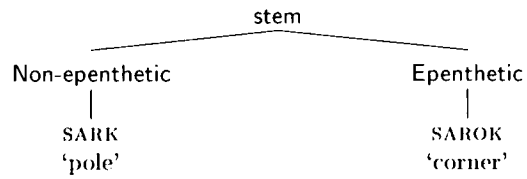
[16] Though this type of defectivity is quite atypical for nouns, there are a whole lot of similar examples in the verbal paradigm. The verb *kotlik* 'brood' has no base form (the hypothetical **kotl*), whence it lacks all analytically suffixed forms, e.g., subjunctive **kotljon*/**kotoljon*. On defectivity, we refer the reader to Rebrus Törkenczy (1998; 1999) and Rebrus (2000b, 846–56).

(26) Separating non-epenthetic stems



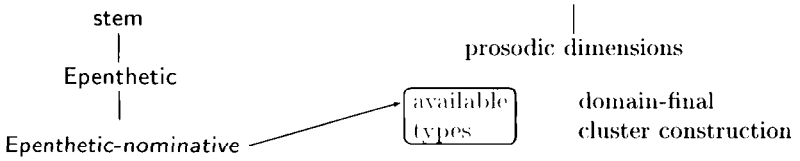
It is clear that cluster-final stems such as non-epenthetic *sark* 'pole' (cf. (22)) or defective [*magv*] 'seed', not being targets to epenthesis, belong to the former class. Hence they are represented as instances assigned to the type Non-epenthetic in the stem dimension. On the other hand, epenthetic *sarok* 'corner' (cf. (22)) is represented as an instance assigned type Epenthetic, for the members of which, stem-internal epenthesis is an available construction:

(27) Instances assigned to stem types



We emphasize that such a positive characterization of a lexical class in terms of available licensing constructions only implies that epenthesis is possible. For stems like *bokor* 'bush', it is clear that epenthesis is also necessary, since *kr* is not a possible final cluster: there is no construction available in the language that allows such a domain final cluster. What makes stem-internal epenthesis obligatory in the base form of "idiosyncratic" epenthetic stems like *sarok* 'corner', however, is a question we have left unaddressed so far. In order to trigger epenthesis in these forms, it is necessary and sufficient to **relegate type** Epenthetic **stems to a lexical stratum where certain domain-final clusters are not possible**. This is to say that epenthetic stems belong to a stratum of Hungarian where phonotactics (at least on the right periphery) is more restrictive than in the productive case of open-class nouns. Technically, this means that type Epenthetic is characterized by restricting the range of final coda constructions available for prosodic licensing. In particular, suppose that nominative forms of these stems restrict domain-final codas to a single consonant:

(28) Epenthetic stems (preliminary)



Any stem in this class which specifies two stem-final consonantal segments in its lexemic representation is bound to epenthesize a vowel in the nominative (and base form in general), just like it is the case with plural forms of consonant-final stems (cf. the data in (14) and the analysis in (19)). The representation of the stem-type of epenthetic *sarok* 'corner' (cf. (23b)) when combined with the restriction on the nominative in (28) yields analyses like that in (29).

(29) Legitimate and disallowed parses of epenthetic *sarok*

(a) grammatical parse

[s a] [r o k] ⟵ available

(b) ungrammatical parse

[[s a] [r] k] ⟵ unavailable

Whether the condition stated in (28) is the most plausible one will be discussed below.

4.3. Phonotactic correlates of stem-internal epenthesis

Though the quasi minimal pair in (22) justifies that stem-internal epenthesis is idiosyncratic in general, class membership has interesting phonological correlates. A number of phonotactic generalizations about the form of these stems cast doubt on a claim that this seemingly morphological property is independent from phonology proper (contra Törkenczy 1992). The chart in Figure 1 depicts the distribution of the two final consonants of epenthetic stems. If we compare the types of clusters that occur as two consonants in epenthetic stems and as stem-final clusters in monomorphemic bases, the following gaps become apparent:[17]

[17] There are quite a few other generalizations about the phonological shape of epenthetic stems, but for the sake of simplicity we focus our attention on only some of them relevant to phonotactic typology. See also Siptár Törkenczy (2000, 216).

(30) Gaps in the epenthetic paradigm

(i) consonants corresponding to a geminate cluster, i.e., identical Cs.
(ii) homorganic nasal+obstruent sequences
(iii) liquid/glide + coronal obstruent sequences

WORD-FINAL CLUSTER TYPE	NON-EPENTHETIC			EPENTHETIC		
	NOM-SG	NOM-PL	GLOSS	NOM-SG	NOM-PL	GLOSS
geminate	sakk	sakkok	'chess'			
homorg. nasal+obstr.	rönk	rönkök	'stump'			
liquid+coronal stop	part	partok	'shore'			
liquid+non-cor. stop	sark	sarkok	'pole'	sarok	sarkok	'corner'
obstruent+obstruent	akt	aktok	'nude'	átok	átkok	'curse'
obstruent+liquid				bokor	bokrok	'bush'

Fig. 1
Lexical gaps in epenthetic stems

Clearly, not any noun can be epenthetic. It seems that the coda constructions attested in epenthetic stems have to reach a certain complexity. For the sake of simplicity, let us say that coda constructions have to attain a complexity that is larger than that of liquid+coronal clusters. Intuitively, this complexity seems to be a necessary condition of motivating stem-internal epenthesis. Note that **the consonant sequences in (30) correspond to a "natural class" of consonant clusters**, in the sense that phonotactic typological generalizations often target them together. There are languages in which the sequences in (30) are the only possible intervocalic or domain-final consonant clusters.[18] Given this coincidence as well as the relative frequency of such consonant sequences in Hungarian, we claim that the lack of these sequences in stem-internal vowel zero alternation contexts is not an accident. The task at hand is to find a solution to represent the idiosyncratic property of stem-internal epenthesis in a way that is able to capture the phonotactic generalization above but which, at the same time, is void of any representational tricks unfaithful to a surface-oriented approach.

[18] So-called Prince languages allow only geminates and homorganic nasal+obstruent clusters besides the most unmarked CVCV pattern. Diola Fogny (Piggott 1999, 146) allows only homorganic sonorant+obstruent clusters (including *lt* and *rt*) both word-internally and word-finally.

4.4. Epenthetic stems as a restrictive phonotactic stratum

We tentatively suggested in (28) that the stratum to which epenthetic stems belong allows for only a limited range of domain-final coda clusters. By the accurate fine-tuning of this limitation, one can achieve a characterization of epenthesis that is able to account for the apparent gaps in the epenthetic paradigm. Technically, we say that type Epenthetic is the class of lexical items in Hungarian which represent a restricted lexical stratum, in terms of limiting the maximum complexity of domain-final coda clusters in liquid + coronal obstruent sequences. This can be directly represented as a type-implication referring to some types in the prosodic dimensions.

(31) Maximal complexity of domain final coda-constructions in the epenthetic class

Epenthetic —available constructions→ { geminate; homorganic nasal + C; liquid + coronal } liquid + velar

Interestingly, nothing we said so far implies that stems that are instances of the type Epenthetic actually show epenthesis in their nominative base form. This follows from the fact that the availability of a stem-internal epenthetic vowel does not alone coerce the stem into an epenthetic variant in the nominative: **epenthesis is forced by the limitation on domain-final coda cluster complexity**. For example, the word *rönk* 'stump (wood)' does not epenthesize a vowel in the nominative since the cluster resulting from its two final consonants is too "easy" (i.e., unmarked) to motivate it. Technically speaking, the unmarked nasal+obstruent cluster construction is always available for parsing.

(32) Parsing unmarked clusters

rönk

[r ö [ŋ] k] ⟵ homorganic nasal+stop available

This means that in whichever part of the lexicon such stems reside, **they will show no stem-internal vowel-zero alternation**.

Note that our account uses nothing beyond what we think is independently needed by the grammar. In particular, epenthetic stems are lexically marked by virtue of their membership in a class that is conspicuous of its restrictive phonotactics. This restrictiveness is not ad hoc, but mimics the phonotactic restrictions that feature in typological universals.

4.5. Lowering stems

There is another non-productive nominal paradigm in Hungarian. In this paradigm the epenthetic vowel between the stem and non-analytic suffixes is low (*a, e*), as opposed to the canonical mid *o, e* and *ö* in the productive paradigm. The nouns belonging to this exceptional paradigm constitute a closed subclass of nouns and are usually referred to as **lowering stems** in the literature (Vago 1980, see also Siptár Törkenczy 2000 and Rebrus 2000b).

Lowering cannot be given a direct phonological motivation, let alone an explanation. Similarly to the case of epenthetic stems, the existence of quasi minimal pairs, such as those in (33), justify that paradigmatic choice with respect to lowering cannot in general be predicted from the phonological shape of the stem (we give the nominative singular and plural forms).

(33) Lowering is unpredictable

NOM	PLUR	GLOSS	
dal	dal<u>o</u>k	'song'	non-lowering
hal	hal<u>a</u>k	'fish'	lowering

Similarly to epenthetic stems, however, phonotactic restrictions turn out to be a relevant factor. Since generalizations regarding single consonant-final lowering stems are not straightforward, we now concentrate on ones containing a consonant cluster. The distribution of domain-final consonant clusters in lowering and non-lowering roots is far from being even: the more marked a certain cluster is, the more likely it is that it is lowering. The chart in Figure 2 illustrates the point.

WORD-FINAL CLUSTER TYPE	NON-LOWERING NON-EPENTHETIC			LOWERING					
				NON-EPENTHETIC			EPENTHETIC		
	NOM-SG	NOM-PL	GLOSS	NOM-SG	NOM-PL	GLOSS	NOM-SG	NOM-PL	GLOSS
geminate	sa<u>kk</u>	sa<u>kk</u>ok	'chess'						
homorg. nasal+obstr.	rö<u>nk</u>	rö<u>nk</u>ök	'stump'						
liquid+*t*/ts/ʧ	pa<u>rt</u>	pa<u>rt</u>ok	'shore'						
liquid+*k*/*g*	pa<u>rk</u>	pa<u>rk</u>ok	'park'				sa<u>r</u>ok	sa<u>rk</u>ak	'heel'
obstruent+obstruent	a<u>kt</u>	a<u>kt</u>ok	'nude'				fé<u>szk</u>ek	fé<u>szk</u>ek	'nest'
obstruent+liquid							sá<u>t</u>or	sá<u>tr</u>ak	'tent'
exceptional cluster				fü<u>rj</u>	fü<u>rj</u>ek	'quail'			

Fig. 2
Lowering nominal stems and lexical gaps

Look at the nominative forms in the first two columns of the chart in Figure 2. Just like in the case of epenthetic stems, it is clear that lowering is motivated by a certain amount of complexity attained by the domain-final cluster of the stem. In particular, the following lexical gaps are apparent:

- geminate and homorganic nasal+C clusters[19]
- liquid + voiceless coronal stop clusters[20]
- liquid + velar stop clusters[21]

Indeed, a very special subclass of lowering stems exhibit domain-final clusters never attested domain-finally in regular stems. These are shown in the chart of Figure 3.

$C_1C_2\rightarrow$ ↓	*v*		*j*		(*ny*		*gy*)	
	NOM-SG	GLOSS	NOM-SG	GLOSS	NOM-SG	GLOSS	NOM-SG	GLOSS
r	érv	'argument'	fürj	'quail'	ár[n^y]	'shade'	tár[d^y]	'object'
j	ö[j]v	'hawk'	ujj	'finger'				
l	nyelv	'tongue'	alj	'bottom'			höl[d^y]	'lady'
n	-sze[ŋ]v	'(sym)pathy'	kö[n^y:]	'tear' ?	kö[n^y:]	'tear' ?		
m	-sze[ŋ]v	'(sym)pathy'	szomj	'thirst'				
ny	kö[n^y]v	'book'	kö[n^y:]	'tear' ?	kö[n^y:]	'tear' ?		
d	kedv	'mood'	me[d^y:]	'sour cherry'			me[d^y:]	'sour cherry'

Fig. 3
Exceptional clusters in lowering stems

[19] To be more precise, we have to admit that geminate *j*, n^y, d^y do occur in lowering stems (cf. Figure 3), but these are systematically banned from regular stems even intervocalically. Geminate *l* is frequently attested at the end of lowering stems, but phonotactically it does not pattern with geminates (inter alia, it is the only geminate that can follow a long vowel) and therefore is problematic anyway. The only seemingly "real" exceptions to this generalization are the words *csöpp* 'drop' and *csönd* 'silence' but both of these seem to lack some paradigmatic forms (e.g., possessive ?**csöppem*, ?**csöndem*). Also they have alternatives *csepp* and *csend*, respectively, which are only optionally lowering.

[20] This is meant to comprise clusters composed of *l*, *r*, *j* on the one hand and *t*, ts, ʧ on the other. All instances of such lowering stems we think are unexceptionally polimorphemic in the sense that they are nominal lexicalizations of the part participle, i.e., *múlt* 'past' is composed of the stem *múl* 'pass' and the past tense suffix *t*, analogously to its English equivalent. However, *-d* (the only voiced coronal existing in any C+cluster) does occur cluster-finally in a couple of lowering stems like *hold* 'moon', *térd* 'knee'.

[21] The form *talp* 'sole' is the only lowering stem that ends in a liquid + non-coronal stop cluster. Interestingly, as opposed to liquid+velar sequences, liquid+labial is not attested in epenthetic stems either.

The question mark indicates that the stem has no unique representation if one uses phonemic segments, i.e., the composition of the surface geminate nasal in *kö*[n^{y}:] is not straightforward. The exceptional clusters in Figure 3 fail to show an unambiguously falling sonority slope typically present in other regular complex codas. Interestingly, all the combinations of sonorant (and *d*) plus *v, j* are attested in some lowering stem while they are unattested in non-lowering stems.

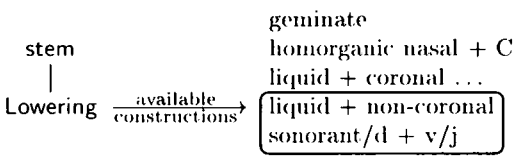
The construction licensing exceptional domain-final consonant clusters can be given explicitly as in (34).

(34) Exceptional domain-final coda construction

$[^{\text{exc d-f clust}}[^{\text{c clust}}\text{S v/j }] \text{ \# }]$

Our account of lowering stems rhymes with the treatment of epenthetic stems described in the previous section. Lowering stems are treated as a lexical class for which **the property of low vowel epenthesis correlates with a minimal complexity requirement on stem-final coda construction**. This is shown below in (35).

(35) Lowering stems as a phonotactic stratum



The condition above says nothing about stems ending in only one consonant, so it makes the correct prediction that lowering stems can end in any single consonant. It also predicts that the lowering stems that end in a cluster have to attain a certain degree of complexity. Those having "exceptionally" complex coda clusters, being banned in regular stems, are required to be irregular, i.e., lowering. The following parsed forms show the effect of (35):

(36) Possible and impossible lowering stems (e.g., *sakk*)

(a) unmarked clusters are impossible in lowering stems

$[^{coda}[\ C\ V\ ]\ [^{gem}\ C\ ]\ C\ ]$ ⟵ geminate not available

(b) exceptionally marked clusters make the stem lowering

$[^{coda}[\ f\ \ddot{u}\ ]\ [^{exc\ d\ f\ clust}\ r\ ]\ j\ ]$ ⟵ exceptional cluster construction is available

4.6. Epenthetic lowering stems

The exceptional classes discussed above are not disjoint: there are lowering epenthetic stems. In these, the stem-internal vowel shows alternation with zero and the stem-final epenthetic vowel appearing in non-analytically suffixed forms is low.

(37) Lowering epenthetic stems

NOM-SG	NOM-PLUR	GLOSS
sarok	sarkak	'heel'
sátor	sátrak	'tent'

Interestingly, if we take the intersection of the constraints we suggested hold for epenthetic stems (cf. (31)) and for lowering stems (cf. (35)), we predict what the shape of epenthetic lowering stems can be. In particular, it is predicted that they have stem-final consonants, which would form a cluster that is either too unmarked (*rk*) or too marked (*tr*) to turn up at the end of non-epenthetic lowering stems.

5. Accuse the accusative?

Our second concern here is whether there is any sense in which static generalizations about existing forms constitute a knowledge base that can be put to use in dynamic on-line linguistic processing. In other words, in what ways can the patterns that emerge by abstracting information for attested surface forms be thought to predict (generate) the form of some instance without their full lexical retrieval? In this section we set out to give a tentative answer to this question.

5.1. Accusative and epenthetic stems

So far we remained silent on the issue whether phonotactic restrictions in the stem domain have any unwanted implications for the other typical non-analytic form, the accusative.

Interestingly, accusative suffixation, just like the plural (cf. (14)), triggers stem-final epenthesis for those stems ending in a consonant that cannot form a legitimate cluster with the accusative suffix *-t*. This constraint applies also to epenthetic stems in a straightforward way. Therefore we have forms like those in (15), where the impossibility of the *kt* cluster in any accusative form can give an explanation for epenthesis:

(38) Expected forms of epenthetic accusatives

sarkot

[[s a] [r] [[k] o] t]

The way in which the accusative behaves if the stem-final consonant of the epenthetic stem would be a possible cluster at the end of the accusative form is even more interesting. It is clear that some epenthesis is also needed here in order to resolve unlicensed three-consonant sequences. This has a straightforward explanation that is entirely analogous to the case of plural epenthesis (cf. (20)). The exact location of the epenthesis site, however, is clearly an issue to be accounted for. Compare the accusative of epenthetic *bokor* 'bush' with non-epenthetic *motor* 'engine':

(39) Accusative of epenthetic stems

NOM-SG	NOM-PLUR	GLOSS	
bokor	bokrot	'bush'	no cluster in epenthetic accusative
motor	motort	'engine'	cluster in non-epenthetic accusative

While the two final consonants of these forms are identical, they nevertheless fail to behave the same way when it comes to cluster-formation in the accusative. The case of *bokor*, whose hypothetical accusative **bokort* is not attested, does not carry over to other epenthetic stems. This preference for stem-final epenthesis in these cases is the alternative that is uniformly accepted by native speakers, and is the only option in conservative dialects. Judgments, however, vary about the acceptability of alternative forms, though there is a tendency not to accept them. We present the accusative forms in Figure 4.

FINAL C	NON-EPENTHETIC			EPENTHETIC			
	NOM-SG	ACC-SG	GLOSS	NOM-SG	ACC-SG		GLOSS
					...VCCVt	...VCVCt	
k, g	lak	lakot	'dwelling'	átok	átkot	*átokt	'damn'
m	rom	romot	'ruin'	izom	izmot	*izomt	'muscle'
n^y	lány	lányt	'girl'	torony	tornyot	*toronyt	'tower'
r	motor	motort	'engine'	bokor	bokrot	?*bokort	'bush'
l	dal	dalt	'song'	öböl	öblöt	?*öbölt	'bay'
j	baj	bajt	'trouble'	bago[j]	bag[j]ot	?*bago[j]t	'owl'
n	kan	kant	'boar'	haszon	hasznot	?*haszont	'profit'

Fig. 4
The accusative of epenthetic stems

Technically speaking we have to have a way to choose between the following forms:

(40) Possible accusatives

bokrot **bokort*

[[b o] [k] [[r] o] t] [b o] [[k o] [r] t]

Previous approaches to prosodic morphology offer some means to handle such issues. One could argue that whatever representation we give to epenthesis, it has to encode the general tendency not to realize the alternating vowel as early as possible, i.e., the leftmost possible alternation site will be unrealized if there is an option. This is exactly Walther's (1999) position.[22] The problem with such an approach exactly lies in its strict predictions.

The relative acceptability of both epenthetic versions in the case of a great deal of stems as well as the striking extent of speaker's variation calls for a finer-grained account. The position of Government Phonology (and CV phonology) is not clear on this issue, but choice of a particular representation for epenthetic stems will determine which epenthesis site will be interpreted in the accusative, therefore optionality is not accounted for. An explanation along the lines of a comparison to the other non-analytically suffixed forms also fails since it is clearly not operative with regular (non-epenthetic) stems (accustative *kant* vs. plural *kanok* 'boar').

[22] Walther calls this Incremental Optimization Principle, which, he argues, can be implemented as local optimization on weighted automata.

We believe that facts of the accusative are easily accommodated in the framework we developed. Earlier we stated a restriction on domain-final coda-clusters in the potentially epenthesizing stemclass in order to explain the distribution of consonants on both sides of the epenthetic vowel:

(41) Restriction on epenthetic stems (tentative)

Epenthetic: domain-final cluster is no more marked than liquid+coronal.

Since all the other forms in the non-analytic paradigm ban domain-final coda clusters anyway (cf. (19)), it is tempting to "generalize" the restriction stated in (41) as a property of the whole paradigm of this lexical class. The generalized ban on complex domain-final codas for epenthetic lexemes – as opposed to only their nominative as in (28) – constrains their entire paradigm. Stating the constraint we have assumed in (31) to the whole stem-dimension already has an effect on the accusative. Only clusters no more complex than liquid+coronal are allowed at the right periphery. This, for example, immediately rules out epenthetic accusatives ending in a *n*^{y}*t* cluster: though such a cluster normally occurs in regular accusatives like *fényt* = *fény* 'light' + accusative *t*, no speaker would say *toro*[*n*^{y}]*t* 'tower-acc'.

(42) Incorrect parse of *toro*[*n*^{y}] + *t* 'tower-acc'

[t o] [r o [n^{y}] t] ⟵ not available

As for the accusative of other epenthetic stems, however, some other explanation is needed. We suggest that in such cases the phonotactic generalizations on truly epenthesizing stems receive an active role, since it is the smallest lexical class of which the stem in question is a member. Within this class—stems which actually epenthesize within the stem– no forms ending in a cluster are attested. If processing of stem-internal epenthesis was associated to phonotactic generalizations about forms in this class, the fact that clusters are unattested would prevent it from applying when processing epenthetic accusatives on-line.

(43) Impossible forms of the standard dialect

[b o] [k o [r] t] ⟵ cluster not attested with stem-internal epenthesis

5.2. Accusative and lowering stems

There is an interesting generalization about the accusative which has to do with lowering stems. Normally, the accusative *-t* can attach to the stem-final consonant without epenthesis provided it yields a cluster possible in accusative forms. In the case of lowering stems, however, epenthesis is mandatory also in the accusative form (see also the data in Figure 2), even if regular accusative forms would tolerate the resulting cluster.

(44) Epenthesis in the accusative

NOM-SG	NOM-PLUR	ACC-SG	GLOSS	
hal	halak	halat	'fish'	lowering
dal	dalok	dalt	'song'	non-lowering

This apparent puzzle is immediately solved if we take it seriously that lowering stems constitute a restricted phonological stratum. Phonotactic constraints imposed on the stem-type have across-the-board effects on the entire lexical paradigm of lowering stems. The explanation is similar to what we said about epenthetic stems. Since complex codas of the form C+*t* are not attested domain-finally in lowering stems, it is no wonder the epenthetic vowel between stem and suffix appears.[23] This is accounted for simply by unifying the phonotactic constraints imposed on lowering stems and on accusative forms.

(45) Accusative of lowering stems

[h a [l] t] ⟵ liquid+coronal unavailable

[h a] [$^{\text{cor}}$[$^{\text{cor}}$l a] t] ⟵ available

5.3. Paradigmatic integrity

What we tried to capture in this section has clear intuitive content. Phonotactic generalizations on some paradigmatic forms might have a direct effect on the surface form of others. Generally put, a form (in our case, the accusative) *A* is preferred to another form *B* by virtue of its "closer resemblance" to other paradigmatic forms (in our case, nominative) than *B*. Several authors argued that such phenomena abound in the world's languages (cf. Benua 1997; Burzio 1996; 1998; 1999; Steriade 1996; 1997a; 1997b). In other words, members of a paradigm share certain properties as to their surface form, which is out of the

[23] Interestingly, the only lowering stem that allows an accusative without low-vowel epenthesis is *oldal* 'page', which itself contains a liquid + coronal plosive cluster internally.

range of characteristics that can be expressed or explained with reference to (the underlying representation of) the component morphemes. This phenomenon is referred to as **paradigmatic integrity**.[24] In our case, correspondence between surface forms assumes a "comparison" between items that do not share a morpheme strictly speaking, i.e., are not members of the paradigm of one lexeme. Rather they are related indirectly by being members of a lexically exceptional paradigm. This amounts to a generalized notion of paradigmatic integrity.

Growing interest in paradigmatic integrity lent new impetus to research in output-oriented theories of grammar, which emphasize the primacy of surface correspondence. Such surface-oriented theories have recently been gaining ever wider acceptance and popularity among linguists, promising a breakthrough in linguistic theorizing. To our knowledge, no explicit spellout of these ideas, however, have been put forward outside Optimality Theory. Though we only touched upon the issue, our analysis reveals the ways in which the effect of generalized paradigmatic integrity can show up also in a monotonic declarative framework using the concept of a hierarchical lexicon. We would like to believe that our contribution offers a promising perspective that could enhance the convergence of results in the two research traditions.

6. Conclusion

Given this organization of grammatical knowledge we hope to be able to explain some recalcitrant examples of sophisticated phonological alternations, which seemingly defy any systematic treatment. In our conception, exceptional paradigms are directly represented by equating paradigms with lexical strata with characteristic phonotactics. We take it as a virtue that, as a consequence, phonologically and morphologically conditioned alternations, provided they are idiosyncratic to a some extent, are not formally distinguishable in the present framework.

[24] Output output faithfulness generally in Optimality Theory, word-to-word association or multiple correspondence in Burzio's work and lexical conservatism in Steriade's work are all meant to stand for some generalized notion of paradigmatic integrity.

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PHONOTACTIC GRAMMATICALITY AND THE LEXICON

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Abstract

The paper explores phonotactic grammaticality and examines the properties phonotactic grammars must have. The central issue is how to distinguish the different degrees (the fully well-formed from the fully ill-formed, or the different intermediate degrees from one another) in a principled way. The paper reviews three algorithms that measure phonotactic grammaticality by calculating the similarity of strings of segments to strings listed as items in the lexicon and identifies other factors that probably also influence the phonotactic grammaticality of a string.

1. Introduction

Native speakers have the ability to pass judgements on the acceptability (well-formedness) of words, i.e., they can judge whether (or perhaps to what extent) a given string of segments may be a word in their language. The well-formedness or ill-formedness of a word is attributable to an interplay of several factors some of which are unquestionably nonphonological. For instance, the hypothetical string */ba:rda:ʃ/ **can** be seen as an ill-formed Hungarian word, but only if analysed as a combination of the noun *bárd* 'hatchet' and the deverbal suffix *-ás/-és* '-ness': $bárd_{N}$+*ás*, which is **morphologically** ill-formed since this suffix cannot be attached to nouns. **Phonologically,** unattested */ba:rda:ʃ/ is just as acceptable as the attested word /ʧa:rda:ʃ/ *csárdás* 'a type of Hungarian dance', i.e., the string of segments is a phonologically well-formed sequence: there is

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no restriction on strings in Hungarian that this sequence violates.[1] In other words, it is phonotactically grammatical.

This paper explores phonotactic grammaticality, specifically, the properties phonotactic grammars (must) have. A phonotactic grammar (a subcomponent of the phonology) is the set of constraints (or the mechanism) which specifies the (degree of) well-formedness of strings of segments.

In what follows first I will discuss some general issues pertaining to (the interpretation of) phonotactic grammaticality, then I will review and comment on three existing phonotactic models[2] two of which work with more than two degrees of phonotactic well-formedness (multi-levelled models), and in the last section I will discuss the factors that can influence phonotactic grammaticality and could/should be incorporated into a phonotactic grammar. I will mainly use English examples because the models to be discussed were mainly designed for English, but will point out differences that would arise if a given model/assumption were applied to Hungarian.

Let us assume (as is usual) that the strings whose phonotactic grammaticality is to be established ultimately are words. Given an inventory of segments (the phonological alphabet of L_1) and an upper limit on word-size, the set of logically possible word-strings can be computed. Henceforward, I shall refer to this set as the "hypothetical set (Set H)". A phonotactic grammar partitions Set H into non-overlapping subsets which represent different degrees of grammaticality. The number of these subsets depends on our view of phonotactic grammaticality. We may assume that any string of segments is either fully well-formed (grammatical) or fully ill-formed (ungrammatical) – in this case the number of subsets is two , or we may assume that there are several intermediate degrees of well-formedness between the fully grammatical and the fully

[1] There are aspects of phonological well-formedness that are not phonotactic in nature, for example, the well-formedness of words related to alternation patterns. A word may be phonologically ill-formed even though it is phonotactically well-formed. For instance, **sárat* [ʃaːrɔt] 'mud-acc' is ill-formed because the vowel of the stem *sár* [ʃaːr] 'mud' shortens before suffixes like the accusative (*sarat* [ʃɔrɔt]). However, there is nothing anomalous about the combination of segments in **sárat* [ʃaːrɔt] – it is just as well-formed phonotactically as attested *várat* [vaːrɔt] 'castle-acc', *járat* [jaːrɔt] 'passageway'. We abstract away from this phenomenon in this study.

[2] There are some other approaches to phonotactic grammaticality I do not discuss here in detail, e.g., Scholes (1966); Clements-Keyser (1983) – both of which are multi-levelled models. I will not to review them because they are either not formalised at all, or are based on rather outdated assumptions, or do not present an algorithm in sufficient detail.

ungrammatical – in this case the number of subsets is more than two. Trivially, the number of subsets cannot exceed the number of strings Set H contains. It is also reasonable to suppose that the number of subsets is low although no reliable evidence is available as to how many degrees of well-formedness native speakers can distinguish. Furthermore, the divisions should be established in a principled way, and not by simply listing the members of the different subsets.

Naturally, only a proper subset of the strings Set H contains occur as attested words in any given language. I shall call this subset the "occurring set (Set O)". It has been long recognised (and is universally accepted in the literature, e.g., Fischer-Jørgensen 1952; Vogt 1954; Halle 1962; Chomsky 1964) that there is no simple correspondence between the partitioning of Set H into subsets that differ in grammaticality and the division of Set H into Set O and its complementary subset. Whether a specific string occurs or not, does not (uniquely) determine its phonotactic grammaticality: non-occurring strings may be grammatical (accidental gaps) and occurring strings may be ungrammatical (unsystematic occurrences or irregular strings). Most phonotactic analyses (explicitly or implicitly) assume a fourfold division of strings.

(1)

	OCCURRING	NON-OCCURRING
WELL-FORMED	regular occurrences	accidental gaps
ILL-FORMED	irregular occurrences	systematic gaps

The classic examples from English are *brick* (regular occurrence), /blɪk/ (accidental gap) and /bnɪk/ (systematic gap) (cf. Halle 1962). *Schweppes, tsetse* could be added as examples of irregular occurrences. It is easy to find examples from other languages, e.g., Hungarian *tőgy* [tøːɟ] 'udder' (regular occurrence), [bøːɟ] (accidental gap), [ɔkn] (systematic gap), *taps* [tɔpʃ] 'applause' (irregular occurrence).

Typically, two degrees of phonotactic grammaticality are assumed in phonotactic analyses and discussions of phonological phenomena related to phonotactics. The reason is that – like elsewhere in phonology – only two degrees of well-formedness (the contrast between the ill-formed and the well-formed) are needed in order to account for phenomena related to or motivated by phonotactics (like epenthesis, deletion, syncope, etc.). It is also usually taken for granted that native speaker judgements also reflect this binary division of strings into well-formed and ill-formed. It has to be pointed out, however, that this is not necessarily true, and there exists some experimental

evidence that native speakers **can** distinguish more than two degrees of phonotactic grammaticality (Ohala 1986; Scholes 1966; Greenberg Jenkins 1964).[3] It is perfectly possible then that a phonotactic grammar should be able to divide Set H into more than two subsets ranked according their well-formedness.

Before we go on to review some of these models, some remarks are in order about the fourfold division charted in (1) and the nature of the strings evaluated by a phonotactic grammar. It has to be noted that commitment to a division of strings into four classes as in (1) does not necessarily mean commitment two a two-level model of phonotactic grammaticality (fully well-formed vs. fully ill-formed). The reason lies in the meanings of the terms "gap" and "occurrence". These terms are used in a dual meaning in the literature. Let us call the object whose phonotactic grammaticality is to be ultimately determined a **structural base**. We have assumed that these are words.[4] On the one hand, occurrence and gap can be used to refer to the occurrence or non-occurrence of a sequence of segments **which is a substring of a structural base, but does not realise a structural base in itself.** This is the substring interpretation of the terms "gap" and "occurrence". For instance, it is often claimed that /stw/, which is unattested in word/morpheme-initial position in English, is an accidental gap.[5] This clearly is a substring interpretation of the term "gap". On the other hand "occurrence" and "gap" can refer to the occurrence or non-occurrence of a sequence of segments **which realises a structural base in itself** (i.e., a base-string). This is the base-string interpretation of the terms gap and occurrence. Under the latter interpretation "gap" does not mean "gap in the pattern of clusters" but a gap in the lexicon: a string is missing from

[3] It is an interesting problem how a linguistic ability of native speakers (such as the ability to distinguish between degrees of grammaticality exceeding two) that appears not to be grammatical in nature is to be evaluated/interpreted. This, however, is beyond the scope of this paper.

[4] In some treatments they are morphemes, cf. Chomsky Halle (1968), henceforward SPE.

[5] The reason is the following: there is a correspondence between initial CC and CCC clusters in English. The first element of a CCC cluster must be /s/. The second consonant must be a voiceless plosive, and the third one a sonorant. In addition to these restrictions, the combination of the second and third consonants in a CCC cluster seems to be governed by the same constraints that govern the combination of the first and the second consonants in CC clusters: if the CC cluster is attested, the sCC cluster is also attested, if the CC cluster is excluded, the sCC cluster is excluded too: e.g., /pl/ ↔ /spl/ (*play, splash*); */pw/ ↔ */spw/. This correspondence breaks down in the case of /stw/: /tw/ – */stw/ (*twig,*). If /stw/ is regarded an accidental gap, the correspondence can be maintained.

the lexicon as a lexical item.[6] Under this interpretation, occurrences are items found in the lexicon.

The structural base and the substring senses of the terms "gap" and "occurrence" are obviously related. The grammaticality of a particular structural base depends on the grammaticality of the substrings making up the string realising the structural base. This means that the phonotactic grammaticality of a structural base is derived of that of the substrings it contains. We shall see that it does not follow that the algorithm that assigns structural bases to degrees of phonotactic grammaticality **necessarily** has to be indirect, i.e., refer to the pre-established phonotactic grammaticality of the substrings. But **if** the algorithm is indirect, it is perfectly possible for the substrings to be assigned to just two degrees of grammaticality (well-formed and ill-formed) while the ultimate grammaticality ratings of the structural bases themselves are multi-level (for instance, a base-string may contain more than one ill-formed substring and the algorithm assessing the grammaticality of base-strings is sensitive to the number of ill-formed substrings a base sting contains).

The central question of phonotactic grammaticality is how to distinguish the different degrees (the fully well-formed from the fully ill-formed, or the different degrees from one another) in a principled way. All treatments agree in the central intuition that while unlistedness in the lexicon does not necessarily entail ungrammaticality, the more similar an item is to most of the listed items, the more grammatical it is (or in the case of two-level models: the more likely it is to be grammatical). The problem is how to formalise this intuition into an algorithm.

2. The SPE-a algorithm

The only explicit early generative approach to phonotactic grammaticality (the first measure proposed in SPE, cf. pp. 380f) incorporates the pre-generative claim that strings excluded by a general statement are structural gaps, and

[6] This could mean morpheme or word, depending on our view of the lexicon. As the question of precisely what kind of units are listed in the lexicon is not crucial in the problem in focus, I will disregard it in this paper. For the sake of simplicity, I will assume that attested word forms of any kind are listed. This is clearly an oversimplification because there are suffix boundaries that are opaque to phonotactic interaction and no phonotactic constraints apply across them (word-level/analytic/Level 2 suffixes; cf. Harris 1994).

those excluded by a non-general statement are accidental gaps.[7] The basic idea is the following: "when a rule specifying coefficients of features in certain configurations is added to the lexicon, the predicted values can be left unspecified in lexical entries. We might propose that if the number of predicted coefficients is greater than the number of specified features in the rule in question, then the addition of the rule represents a true generalisation. Once added to the grammar, this rule excludes certain unattested configurations that would be inconsistent with it. On the other hand, when all such rules are added, there will still be many unattested configurations consistent with this 'simplest set' of rules; these, then, would be the 'accidental gaps', the admissible, unrealized matrices. Thus, we can draw the distinction between admissible and inadmissible configurations in terms of a rather natural extension of the method of evaluation to the lexicon" (SPE, 381f). Thus, SPE-a claims that if we have a rule R (an MSC in SPE) whose cost (i.e., the number of features needed to state the rule) exceeds the number of features that could be left unspecified in the lexicon if we added the rule to the lexicon, then R does not represent a "true generalisation", consequently, must not be added to the grammar. The non-occurring strings that would be excluded by R are accidental gaps. On the other hand, a rule represents a true generalisation, and must be added to the grammar, if its cost is smaller than the saving its addition would effect in the lexicon. The non-occurring strings excluded by such a rule are systematic gaps, and the non-occurring strings permitted by such a rule (and not excluded by other such rules) are accidental gaps. This measure applies to the classic examples *brick,* /blɪk/, /bnɪk/ in the following way. No rule can be formulated to exclude *brick* because it is listed in the lexicon. The rule excluding unlisted /bnɪk/ can be stated with reference to the initial consonant cluster (nasals cannot occur in the second place in initial clusters English). It is a fairly simple rule in terms of the number of features needed to state it, and would result in a "saving" of several features for every lexical item beginning with two consonants in the lexicon. Therefore, the rule excluding it is a "true" phonotactic rule, and /bnɪk/ is a systematic gap. By contrast, the rule formulated to exclude /blɪk/ cannot be formulated with reference to any of its substrings, but would have to refer to the whole string **as a base-string,** i.e., it

[7] The treatment in SPE is a summary of identical approaches to the problem by Halle (1959; 1962), Chomsky (1964) and Chomsky Halle (1956). Interestingly, SPE never refers to the pre-generative precursors of the approach, such as Fischer-Jørgensen (1952) and Vogt (1954).

would have to exclude /blɪk/ as a lexical item. Thus, it would be a highly specific rule which would save very few features. Consequently, the putative rule formulated to exclude /blɪk/ is not a phonotactic rule of English and /blɪk/ is an accidental gap. It is clear that the assumption underlying the measure is the following: if we can only formulate a statement excluding a string realising a structural base in such a way that must refer to the whole base-string and not to any of its substrings, then the non-occurrence of the string in question is accidental. The view of the lexicon, lexical representations, underspecification, and the notion of MSCs as conceived by SPE are outdated, but this is beside the point: the measure could be made to conform to more recent views (e.g., instead of counting the features that are left unspecified, one could count the features that could be unspecified, etc.). SPE-a is a measure of only two degrees of phonotactic grammaticality (well-formed vs. ill-formed). It can only distinguish accidental gaps from systematic gaps, but cannot distinguish regular occurrences from irregular ones (i.e., it assumes that the items listed in the lexicon are uniformly regular/well-formed).[8] It measures the grammaticality of base-strings directly and cannot measure the grammaticality of substrings, i.e., any unlisted base-string that can be excluded with reference to a substring will be evaluated as a systematic gap: unlisted **stwig* will be just as ungrammatical as **spwig* even though it can be argued that */stw/ is and accidental gap while */spw/ is a systematic gap in English (see note 5).

3. The SPE-b algorithm

In SPE another phonotactic measure is put forward (I shall call it SPE-b). SPE-b is clearly meant to supersede the first measure. SPE-b, as opposed to SPE-a, is a multi-level phonotactic algorithm, i.e., it assigns strings to more than two degrees of phonotactic grammaticality. SPE-b claims that "items that do not occur in the lexicon differ strikingly in their 'degree of admissibility'. Hence a real solution to the problem of admissibility will not simply define a tripartite categorization of occurring, accidental gap and inadmissible, but will define the 'degree of admissibility' of each lexical matrix [...]" (SPE, 416f). The degree of admissibility is measured as a distance of a string from the lexicon. The distance of a potential lexical item (a matrix of features) μ from

[8] Later in SPE Chomsky and Halle note that "in any real grammar, the lexicon will actually contain items that are 'inadmissible'" (p. 416), but they never incorporate this realisation into the algorithms they actually propose.

the lexicon (L) is defined as follows: a rule R "**distinguishes** μ from L if [R] does not change any member [ν] of L (i.e., given $\nu \in$ L, either [R] is inapplicable to ν or it leaves ν unaltered) but [R] does change μ; and furthermore [R] is minimal in that any other rule meeting these conditions contains at least as many features specified [+F] or [−F] as does [R]" (SPE, 417). The distance of a potential lexical item from the lexicon is $1/n$ where n is the number of specified features in the rule distinguishing the string in question from the lexicon. The distance is taken to be zero if there is no rule that would distinguish the item from the lexicon. "To determine the distance of a matrix from L, we find the simplest rule which is 'true of L', in the obvious sense, but not true of μ, and we take the distance of μ from L to be inversely related to the complexity of this rule" (SPE, 417).

Thus, the distance of *brick* from the English lexicon (L_e) is zero because there is no rule that would distinguish it from L_e (i.e., it is listed). According to SPE the distance of /blɪk/ from L_e is 1/17 because the minimal rule that distinguishes it from L_e has 17 specified features (the rule states in the SPE feature system that a consonant must be non-lateral in the context /b_ɪk/ initially in a base-string). The distance of /bnɪk/ from L_e is 1/5 because the minimal rule that distinguishes it from L_e has 5 specified features (the rule states that a consonant must be non-nasal following an initial non-continuant in a base-string). The distance of /bnzk/ from L_e is 1/4 because the minimal rule that distinguishes it from L_e has 4 specified features (the rule states that a segment following a base-initial two-term cluster whose second consonant is a nasal must be a vowel). Thus, according to SPE-b the above strings would be rated on a scale of decreasing phonotactic grammaticality as shown in (2).

(2) *brick* > /blɪk/ > /bnɪk/ > /bnzk/

These assignments seem correct intuitively. Note that SPE-b is an extension of SPE-a. The main difference between the two algorithms is that SPE-b allows for grammaticality assignments where the number of degrees of phonotactic grammaticality exceeds two. Otherwise, the two models are very similar. Both are based on the assumption that the more general the (negative) phonotactic rule is, the fewer features are needed to state it, and it is the generality of the rule (whether it is actually part of the grammar or an extragrammatical measure) that is the core of phonotactic grammaticality: the more general the rule is, the less grammatical the measured string will be. Like SPE-a, SPE-b also measures (i) base-strings only (and cannot measure the grammaticality of substrings), (ii) unlisted base-strings only (and cannot distinguish between

regular and irregular occurrences) because (iii) it assumes that all listed base-strings are fully grammatical. We have seen that (iii) is incorrect. There are two additional notable features of SPE-b: (iv) given an unlisted base-string whose grammaticality is to be established, its rating will only depend on a single deviation from the lexicon, the one that can be excluded by the most general rule (thus, an unlisted base-string such as /bnmp/ that contains two ill-formed substrings /bn-/ and /-np/ is judged just as deviant as /bnk/, which only contains just one); (v) there is no upper limit on the number of degrees of phonotactic grammaticality the measure allows for. These assumptions make predictions about the behaviour/intuitions of native speakers, and there is experimental evidence that (iv) is untrue (Ohala 1986).

4. The Greenberg–Jenkins algorithm

As opposed to SPE-b, the Greenberg Jenkins algorithm, henceforward GJ (Greenberg Jenkins 1964) assumes that number of violations in a base-string influences its phonotactic grammaticality, i.e., that native speakers are sensitive to the number of violations within a base-string.

GJ is a segment substitution algorithm. "If we have a sequence of length n, we can substitute from zero up to n at a time and each such number of substitution can be done $\binom{n}{i}$ ways where i takes on values from 0 to n (Greenberg Jenkins 1964, 158). The total number of substitutions is 2^n. Zero substitution means leaving the word as it is (=no substitution). Thus, in a CVC string the total number of substitutions is $2^3 = 8$. Greenberg and Jenkins claim that the phonotactic grammaticality of a word depends on the number of **successful** substitutions, i.e., those substitutions that yield an existing word. They propose the following measure of phonotactic grammaticality:

(3) $G = (S_p + 1) - S_s$

where S_p is the number of logically possible substitutions and S_s is the number of successful substitutions. If $G = 1$, the string is fully grammatical. The greater G is, the less grammatical the string is. Chart (4), which is based on Ohala 1986, shows the grammaticality ratings of three candidate words /kræk/, /klæb/ and /kleb/ in English (the substituted segments are emboldened in the CV skeletons).

(4)

	/kræk/	/klæb/	/kleb/
CCVC	crack		
CCVC	track	slab	
CCVC	clack	crab	-
CC**V**C	creek	club	club
CCV**C**	crass	clam	Clem
CCVC	smack	stab	
C**C**VC	click	crib	crib
CC**V**C	cream	clip	clip
CCV**C**	shriek	slob	slob
C**C**VC	clash	slam	phlegm
CCV**C**	trash	cram	kress
CCVC	slick	grub	grub
C**C**VC	clean	cream	cream
CC**V**C	trim	flip	flip
CCV**C**	blab	spat	bread
CCVC	gleam	gruff	gruff
$S_s =$	16	15	12
$G =$	1	2	5

($S_p = 2^4 = 16$)

Thus, these base-strings would be rated on a scale of decreasing phonotactic grammaticality as shown in (5).

(5) *crack* > /klæb/ > /kleb/

Greenberg and Jenkins impose a number of restrictions on the way substitutions can be made:

(6) (i) consonants may only be substituted for consonants, vowels for vowels;
(ii) substitution by zero (subtraction) is not permitted;
(iii) additions are not permitted.

An important feature of the model is that Greenberg and Jenkins permit **identity substitutions** in strings attested as words. This means that whenever substitution is not successful in a given place or places in an **existing word,** they permit that the word itself should qualify as a successful substitution. Thus, for example, in English the string /str/ (which realises an attested word *straw*), the substitution of /p/ or /k/ (the only two consonants other than

/t/ that can occur after /s/ in an initial CCC-cluster) for /t/ does not produce an existing word. Nevertheless, since identity substitution is permitted, substitution in the second place (i.e., the substitution of /t/ for /t/) is taken to be successful. "Thus, any existent word automatically receives all possible substitutions" (Greenberg Jenkins 1964, 159). Allowing identity substitution is equivalent to the assumption that all listed items are grammatical. This position is taken because otherwise existing words might receive different ratings, in fact, they might end up being just as ungrammatical, or even less grammatical than some non-existing words. Chart (7) shows the ratings that we would get for the English words *free, mew, stay* and unattested /ʃteɪ/ if identity substitutions **were not** permitted.

(7)

	/fri:/	/mju:/	/steɪ/	/ʃteɪ/
CCV	free	mew	stay	
CCV	tree	new[9]	stay	
C**C**V	flee		slay	
CC**V**	fry		sty	
CCV	glee	clue	clay	clay
C**C**V	fly		spy	shrew
CC**V**	try	cure		sty
CCV	clue	stay	clue	clue
$S_s =$	8	5	6	5
$G =$	1	4	3	4

($S_p = 2^3 = 8$)

The ratings for these base strings would be the following **without identity substitutions**:

(8) *free* > *stay* > *mew* = /ʃteɪ/

As can be seen, only one of the base-strings would be fully grammatical (*free*). It would be more grammatical than the other two lexically listed base-strings

[9] Throughout the paper Standard Southern British pronunciation is assumed. Furthermore, for the sake of simplicity, substitution is taken to apply to a near surface representation, e.g., there is no [r] in non-prevocalic position (*cure* is three segments). Naturally, different representations would give slightly different ratings.

(*stay* and *mew*) of which the former would be more grammatical than the latter. Furthermore, one of the listed base-strings (*mew*) would turn out to be just as (un)grammatical as the unattested base-string */ʃteɪ/. This complexity of ratings is counterintuitive (*mew*, a listed base-string that contains no deviant substrings,[10] would be judged just as (un)grammatical as */ʃteɪ/, an unattested base string that contains the deviant initial substring */ʃt/. Thus, a simple modification of GJ by disallowing identity substitutions produces undesirable results. Unfortunately, however, permitting identity substitution causes problems as well. Consider the ratings for two words *prey* and *schwa* when identity substitutions are permitted:

(9)		/preɪ/	/ʃwɑː/
	CCV	pray	schwa
	CCV	tray	schwa
	C**C**V	play	schwa
	CC**V**	pry	schwa
	CCV	clay	spa
	C**C**V	ply	shrew
	CC**V**	try	sway
	CCV	fly	fly
	$S_s =$	8	8
	$G =$	1	1
	$(S_p = 2^3 = 8)$		

Identity substitutions make both (listed) base-strings in (9) equally (fully) grammatical. It is notable, however, that (not counting zero substitution) for *pray* none of the substitutions are identity substitutions whereas for *schwa* three of the substitutions are. This fact reflects the intuitive judgement that the latter string – although it is an attested word – is not as grammatical as e.g., *pray*. GJ does not allow for such distinctions.

Another serious problem is that GJ does not make it possible to compare the grammaticality of base-strings of different length. In its original form the

[10] GJ probably more-or-less correctly measures the (dis)similarity of *mew* to other items in the lexicon. *Mew* is unusual (and gets a low grammaticality rating) because after a cluster Cj the choice of vowels in English is very limited: the vowel can only be [uː oə ʊ] (*fjord* is an isolated counterexample). No such restrictions apply after any other cluster in English.

algorithm favours shorter words: the longer the measured string is, the less likely it is that a word can be produced by substitution. This is especially problematic in languages (such as Hungarian) where the length of words is typically longer than in English. Also there is a wide range of dimensions in which words/morphemes can differ from one another (length, number of vowels, etc.). It would be desirable to measure the grammaticality of a unit that shows a limited range of variety. An obvious choice would be the syllable. If the phonotactic grammaticality of syllables were measured with a substitution algorithm, a component would have to be added that calculates the grammaticality of words with reference to the grammaticality of syllables.

GJ also does not take into consideration the number of successful substitutions in a given place: it makes no difference whether only one successful substitution is possible or several successful substitutions are possible in a given place. E.g., given hypothetical British English /vjʊə/,[11] only one successful substitution is possible in the third place (where /ʊə/ is a single segment): *view*. By contrast, several successful substitutions are possible in the same place in hypothetical /trɔː/: e.g., *tray, try, tree, true*, etc.

Greenberg and Jenkins tested their measure and found that there is a good agreement between their grammaticality ratings and the test subjects' reactions. Ohala (1986) also tested GJ and found that it is correct on two counts: (i) native speakers react to both small (particular) and large (general) deviations from the native pattern, (ii) native speakers are sensitive to the number of violations in a hypothetical word. Note these experimental result do not mean that GJ is correct, only that it is correct on these two counts (Ohala 1986).

5. Summary

In the final section of this paper I will give a brief summary of the most important issues discussed, formulate questions for further research and identify the factors that can possibly influence the grammaticality of a string and should be built into a phonotactic grammar.

(i) **Similarity to the lexicon.** A phonotactic grammar measures the similarity of a string to the listed strings in the lexicon. Unlistedness does not necessarily entail (full) ungrammaticality, but the more similar a string is to

[11] Assuming that *viewer* is pronounced /vjuːə/.

most of the listed strings, the more grammatical it is (or the more likely it is to be grammatical).

(ii) **Two or more than two degrees of phonotactic grammaticality?** There is some experimental evidence (Greenberg–Jenkins 1964; Ohala 1986) that native speakers can distinguish more than two degrees of grammaticality. This suggests that a phonotactic grammar that is to model native speaker intuition/behaviour manifested in well-formedness judgements has to be multi-level.

There are, however, two problems related to (ii):

(iii) **The discrepancy between phonotactic grammaticality manifested in well-formedness judgements and in phonotactics-driven phonological processes/phenomena.** While more than two degrees seem to be required to model native speaker well-formedness judgements, only two degrees of phonotactic well-formedness are ever needed in the phonology to account for phonotactics-driven phenomena such as epenthesis, syncope, deletion, etc. This discrepancy is usually ignored in the literature and an agreement between grammaticality judgements and phonological role is assumed. This relationship should be explored by future research.

(iv) **The number of degrees of phonotactic grammaticality.** The multi-level models we have discussed do not impose an upper limit on the number of degrees of phonotactic well-formedness. Taken to the extreme, this makes the prediction that native speakers are capable of distinguishing an infinite number of degrees of grammaticality. Such a claim is certainly untenable (and is reminiscent of the SPE position on the number of stress levels). A realistic multi-level model must have an upper limit on the number of degrees.[12] Preferably, the number of degrees should be low. It is unclear how such an upper limit can be determined as experimental evidence is lacking.

(v) **Base-strings and substrings.** The algorithms discussed measure the well-formedness of base-strings directly, i.e., without reference to the possible differences between the phonotactic grammaticality of substrings. While the grammaticality of substrings is often referred to in the literature, there

[12] The only algorithm known to me that is multi-level and has an upper limit is that of Clements–Keyser (1983). They have three levels of phonotactic well-formedness (fully grammatical, fully ungrammatical and intermediate). However, Clements and Keyser do not go into details and propose this measure without any argumentation/experimental evidence.

is no evidence available about the role it plays. There are many questions one could ask, for instance: are there just two degrees of substring well-formedness or more than two?; are native speakers sensitive to the grammaticality of substrings independently of base-strings?, etc. It would be possible to construct phonotactic grammars that are indirect in the sense that they measure the grammaticality of base-strings with reference to pre-established grammaticality ratings of substrings.

(vi) **The number of violations in a base-string.** There is evidence that native speakers are sensitive to the number of deviant substrings in a base-string (Ohala 1986). The higher the number is the less grammatical the string is. This favours GJ over SPE-b.

(vii) **Uniformity of strings measured.** The algorithm should be one that allows the comparison of the grammaticality of any two strings whose grammaticality is measured. This disfavours algorithms that measure the grammaticality of morphemes/words **directly** since they may considerably differ from one another in size and structure. A more uniform unit, such as the syllable, is easier to measure. This favours indirect models if the ultimate task is to measure the grammaticality of words.

(viii) **The role of (un)listedness.** It is not clear precisely what role (un)listedness in the lexicon plays in determining phonotactic grammaticality. In two-level models unlistedness plays no role at all since unlisted items may be fully grammatical (accidental gaps). It is clearly untenable to consider listed items always fully grammatical, since there are irregular occurrences. The models we have reviewed nevertheless make this assumption as an (over)simplification, which makes it easier to approach the problem. A more satisfactory phonotactic grammar must suppose that the lexicon contains items that are not (fully) grammatical. Even if listedness does not entail full grammaticality, it is possible that (assuming a multi-level model) it contributes to the grammaticality of an item. Note that this also suggests that different speakers (who may have different lexicons) may have different grammaticality judgements.

(ix) **Sublexicons.** There are languages that are known to have sublexicons that are identifiable phonotactically in that they have (partly) different phonotactic regularities (Itô Mester 1995; arguably the Hungarian verb has somewhat different phonotactics from the noun). It is a nontrivial problem how grammaticality ratings are influenced by a more intricate

structuring of the lexicon. Several scenarios seem possible (e.g., each sublexicon has its own phonotactic subgrammar, or there is a designated default sublexicon that determines the grammaticality ratings of unlisted strings, etc.).

A related problem (and a further complication) is the well-known difference between the phonotactics of different phonological/morphological levels: while the phonotactics of root-level derivatives is typically the same as that of underived words, the phonotactics of word-level derivatives is usually very different. Given this difference, the question arises whether there is an **overall** phonotactic pattern statable for a given language, and if there is one, which one is it – the phonotactics of underived and root-level derived words or the phonotactics of all words including word-level derived ones?

(x) **Frequency.** Type and token frequency may also have an effect on phonotactic grammaticality. It may be hypothesized that more frequent items are felt more grammatical than infrequent ones.

This report on phonotactic grammaticality has to end on a rather desperate note: it seems that everything we know about phonotactic grammaticality is an oversimplification. All the existing models contain features that are definitely incorrect. GJ seems to be the most promising of the models discussed. Future research must make modifications (along the dimensions discussed here) and test the modified model experimentally.

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DISMANTLING SYLLABLE STRUCTURE*

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Abstract

By listing some empirical evidence and introducing theoretical considerations, this paper argues for the idea that the phonological skeleton is made up of strictly alternating C and V positions. The model advocated here claims that no two consonants and no two vowels are ever adjacent in the phonological representation if adjacency is defined at the level of the skeleton. This is rather counterintuitive unless one accepts the possibility of empty skeletal positions. If so, the claim acquires a new meaning: whenever adjacent consonants or adjacent vowels (that is to say long vowels or diphthongs, besides the obvious case of hiatus) are encountered their representation will involve an intervening empty vocalic or consonantal position, respectively. Accordingly, the first part of the paper shows that the acceptance of empty skeletal positions is a viable idea and, if looked at from a non-Indo-European vantage point, it is in fact the null hypothesis. The second part aims at demonstrating that the arguments supporting the status of the syllabic constituent coda are rather weak, in fact, the traditional syllable structure, incorporating an onset, a nucleus and a coda, can be dismantled in favour of a simpler model involving only consonantal and vocalic skeletal positions.

1. Empty positions in the skeleton

One of the most important achievements of modern linguistics is the discovery of the use of emptiness. The aim of the discussion that follows is to convince the reader that empty positions in the phonological skeleton are not merely a tricky device to ease the analysis, but rather a logical conclusion of various different lines of thought pursued by theorists of modern phonology.

1.1. The skeleton–melody relationship

A not so recent advancement in phonological theory is the recognition of the necessity of separating the quantitative and the qualitative aspects of segments.

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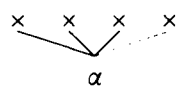
In this line of research, the quantitative aspect is represented by a so-called skeletal tier, the qualitative by the melodic tier. The exact content of these two tiers is one of the most important issues of current research. The skeletal tier primarily encodes the temporal extension of the given stretch of the sound flow, while the melodic tiers contain melodic primes – features, as they are standardly referred to –, which stand for the acoustic signal, on the one hand, and the oral gymnastics, on the other, that are manifest in the period of time represented by the stretch of the skeleton the given primes are associated with. The relationship between the elements of the two tiers is negotiated by association lines.

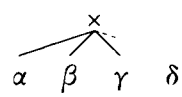
With the advent of the autosegmental model, it becomes necessary to explore the consequences of non-biunique relationships between the skeletal and melodic tiers. Having one batch of melody defining primes associated to two skeletal positions is the best-known and probably least controversial option, standardly employed to represent some acoustic property stretching across multiple timing slots (1a). The realization of this configuration ranges from long vowels ([a:]) and some diphthongs ([ei]), through genuine geminate consonants ([t:]), to partially identical clusters, like adjacent monomorphemic homorganic consonants ([mb]). The complementary configuration – two pieces of melodic material linked to the same skeletal position – is also a common thing, given that sounds are usually thought of as composite entities (1b). (The Greek letters represent melodic primes.)

(1) (a)

(b)

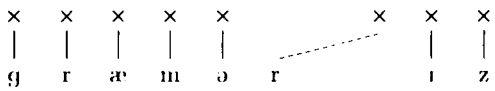
Association of melodic material and skeletal slots includes not only one-to-two, but also one-to-three, one-to-four, etc., associations (2a). What is intriguing is that while such configurations obviously exist – vowel harmony and tone phenomena very often exemplify unbounded spreading of melodic material through longer skeletal strings –, three-long consonants ([t::]) or vowels ([a::]) (allegedly present in, for example, Estonian) are standardly explained away, analysed in such a way that does not involve a structure like the one in (2a) and supposed to be noncontrastive even if phonetically existent. Phonological theory must find a way of rendering such structures impossible, or at least highly marked. (2b) represents a segment consisting of three, four etc. melodic primes, that is, a rather complex sound.

(2) (a) 

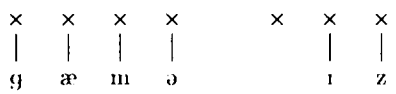
(b) 

Two further options that deviate from the simple one-to-one relationship are available in an autosegmental model. One is melodic material without an associated skeletal slot. Such floating segments are very useful in handling alternations where in what looks like the base form of a word there is nothing to indicate the presence of melodic material surfacing in some other, oblique form. This option is used, for example, by Kenstowicz Rubach (1987) in their analysis of yers in Slovakian. The phonetic identity of a realized yer is usually predictable in Slavic languages, but in Slovakian the decisive factor, the palatalization of surrounding consonants, is lost, rendering the quality of the surfacing yer unpredictable. Another alternation of this type is liaison, which is especially intriguing when there exist other words with phonologically similar base forms which fail to manifest the same alternation. Such is the case in, for example, the textbook RP[1] *grammar is* [gɹæmə r ɪz] vs. *gamma is* [gæmə ɪz], where the base forms are [gɹæmə] and [gæmə], respectively. The presence of the [r] in the first but not in the second case can be explained by assuming that [gɹæmə] is lexically furnished with an [r] that lacks (or is unassociated to) a skeletal slot, while [gæmə] has no [r] of any kind, as shown in (3).

(3) (a)



(b)



Such an account avoids the use of brute force deletion, i.e., maintains monotonicity (cf. Kálmán 1989), to explain the failure of the [r] to surface in case no vowel-initial string follows (e.g., *grammar book* [gɹæmə bʊk]). It also presupposes that phonetic interpretation proceeds on the skeleton, realizing those and only those portions of the melody that are associated with the skeleton.

[1] This dialect is sometimes claimed to be nonexistent outside prescriptively biased books on English pronunciation (Harris 1994, 293, note 5), though Jones, for example, claims he is a speaker of this dialect (1967, xxvii). Whatever its reality, it illustrates the case in point.

If the mere presence of melodic material in the representation were enough for its being phonetically interpreted the option of unpronounced floating melody would not be viable.

The complementary situation is obviously a skeletal slot without any melodic content associated to it. This configuration comes handy again in dealing with liaison phenomena: for the floating liaison consonant to be interpreted it must be linked to a skeletal position. Since such consonants are typically pronounced only if a vowel-initial word (or suffix) follows, all that need be hypothesized is that such words carry a skeletal slot at their beginning which is not associated to any melodic material lexically, like at the beginning of *is* [ɪz] in (3). The floating melody thus has a chance to associate and hence get interpreted.

Though this account appears elegant at first sight, there is some theoretical difficulty with it. If the phonetic interpreter takes consecutive skeletal positions as its input and realizes whatever melody is linked to each, one may wonder what should happen when it encounters a position to which no melody is associated. There are two obvious possibilities, depending on the theoretical status of skeletal slots, i.e., whether they represent a segment of the speech flow or a more abstract entity which if empty is interpreted as silence. If we make the assumption that skeletal slots are segments of the speech flow each slot must be interpreted, including empty ones. Without any explicit melodic material the phonetic interpretation of a position is not trivial. It is only in a framework applying exclusively unary features that this task is worth attempting: if features are binary or scalar phonetic interpretation may only begin once all feature values are present — some lexically given, others supplied during the phonological derivation. As opposed to this, unary features model privative oppositions, where a contrast is produced by one of the parties lacking some property the other possesses. That is some segments are made up of less features than others, a property that also reflects the relative unmarkedness of the former type as compared to the latter. The bottom extremity of markedness is a segment containing no features at all, i.e., an empty skeletal position.

As we are going to see, it also makes sense to assume that the phonetic interpretation of an empty position is a function of other factors of the representation, that is, the same skeletal slot devoid of any melodic content may under certain circumstances be interpreted as a very unmarked segment, while in other cases remain silent. The advantage this assumption buys us is that segment zero alternations will not have to involve the insertion or deletion of any phonological material, the former option being arbitrary, the latter non-monotonous, instead they will follow from the interpretative conventions.

1.2. Empty skeletal positions and the null hypothesis

One way of classifying current phonological theories is by the criterion whether they allow skeletal positions to be empty or not. The stance one adopts in this issue is of substantial relevance to the whole of a given theory. There are several questions that the existence or nonexistence of empty skeletal positions bears upon. To mention but a few: the association of segments in phonological strings to syllabic constituents will be seen radically differently if empty positions may occur and cases of segments alternating with zero must also be analysed differently if we are reluctant to accept that a skeletal position may be empty: the destructive, non-monotonous device of resyllabification is very often called for if one wishes to have only positions with melodic content on the skeleton.

Taking the first case, let us assume the conventional syllable structure comprising an onset, a nucleus and a coda. In the standard textbook account all three constituents come with a practically unbounded branching potential, i.e., the onset in English may contain 0 3, the nucleus 1 2 and the coda 0 5 segments (e.g., Giegerich 1992, 153, 167). Being empirically correct this analysis fares well for a description but is unusable when searching for an explanation; the number of branches for each constituent ranges within patently stipulative limits. One wonders why the onset may contain up to three segments, what inhibits it from having, say, four. The tacit assumptions behind this analysis are the axioms that syllable boundaries necessarily coincide with word boundaries[2] and that segments are fully integrated into the prosodic hierarchy, that is, each segment belongs to some syllabic constituent, each syllabic constituent belongs to some syllable and so on. The unfoundedness of the first axiom becomes apparent if we consider that on another level of the prosodic hierarchy, that of feet, boundaries do not necessarily coincide; words may begin with a degenerate foot and may end with a sole stressed syllable, which is not usually referred to as a degenerate foot, it still lacks a dependent second syllable. The second axiom, full integration of segments, has to be given up by theorists following this line as soon as it is realized that word edges tolerate a wider

[2] E.g., Blevins (1995, 209): "In all languages, syllable edges correspond with word/utterance edges..." Besides being unjustified, such a claim is also empirically false: there are several examples of word-final and word-initial consonants being extrasyllabic, i.e., not belonging to the preceding or following syllable.

range of phonotactic freedom,[3] and to handle such phenomena the notion of extrasyllabicity has to be introduced.[4]

There is yet another reason why Giegerich's (or other analysts' similar) constraints are spurious theoretically: while the two consonantal constituents, the onset and the coda may be absent from the representation, the same possibility is not available for the vocalic portion of the syllable, the nucleus. The excuse that may be brought up to explain this discrepancy is the head status of nuclei; as the head of the syllable they must not be empty. Again, if we move to other levels of the prosodic hierarchy the situation is different: both headless feet and headless segments[5] are possible.

As for segment zero alternations, we have already seen a case where hypothesizing an empty skeletal position facilitates the analysis: liaison phenomena are neatly describable by positing an empty consonantal position before vowel-initial words. To take another instance, this time a vowel alternating with zero, consider the onset [m] of the unsyncopated [fæməli], which becomes a coda in the bisyllabic [fæmli]. A similar but converse situation often arises with morphological concatenation, e.g., the coda [l] of *tell* becomes an onset in *telling*. Both of these cases involve resyllabification in theories that want to maintain that prevocalic consonants are in an onset, but reject the possibility of having empty skeletal positions. Resyllabification, however, subverts the result of core syllabification, thereby representing a serious challenge to phonological parsing: if in a framework it is allowed that the syllabic status of elements be freely changed during the derivation, the possibility of tracing back the derivation, getting from the surface signal to the underlying representation, reduces radically.[6] One could argue that resyllabification is necessary because a word-final or preconsonantal consonant behaves differently from its prevocalic alternant. This, of course, is true, but one must also admit that resyllabification is simply a way of representing this fact, nothing that would offer any explanation. In such a framework we know a consonant is in coda

[3] If syllables in English could in fact begin with three consonants and end in five, we would expect eight-consonant-long intervocalic sequences within words, but this also turns out to be a disappointed expectation.

[4] E.g., Goldsmith (1990, 123): "*prosodic licensing,* which require[s] that all elements be a member of some syllable, or else be marked as contingently extrasyllabic."

[5] The head nonhead distinction in segments is not universally accepted, but cf. Anderson Ewen (1987), Kaye et al. (1985), Schafer (1995), among others.

[6] It was for similar considerations that Chomskyan syntax has abandoned the device of **movement,** replacing it with the notion of **chains**.

position because it behaves like consonants in coda position usually do. Since **being** in coda position is not an empirical issue, codas have no theory-external status, we have no independent evidence for the codahood of a consonant apart from the fact that it behaves like other consonants that we believe to be in the coda. If one wants to avoid applying resyllabification, the alternative analysis of segment zero alternations and morphological concatenations will involve empty skeletal positions.

What apparently justifies theories of the skeleton that reject the possibility of empty positions is the assumption that this is the null hypothesis. That is, empty skeletal positions ought not to be posited unless there exist phonological phenomena with no other way to analyse them. While it is true that accepting skeletal positions that fail to be interpreted phonetically does bring some abstractness into a theory, it is controversial whether their rejection *is* the null hypothesis. The generative power of a theory having syllables of an unlimited size may be just as excessive as that of one having empty skeletal positions, what matters is whether there are adequate means of curtailing the possibilities.

It is common knowledge that there are languages (e.g., Hua) in which all phonological strings conform to a uniform CVCV...CV pattern on the surface. From this fact one can infer that there is one type of syllable in such languages, one which comprises a single onset consonant followed by a nucleus. Since this syllable type is also one that appears to exist in all human languages (cf. Blevins 1995, 217, also for the language names), we may conclude that CV is the basic syllable type. In another set of languages (including Cayuvava) we find consonantless syllables in addition to the basic CV type. One way of incorporating this fact in a theory is adding another syllable type, V, i.e., assuming that single vowels also form syllables in such languages. But increasing the syllable inventory is not an unavoidable necessity: one may also claim that only CV syllables exist in both types of languages, but in the second type the C part may remain unassociated to segmental material, i.e., may be empty and hence unpronounced. Other languages (e.g., Krenak, cf. Kaye 1990) involve a further complication: they have word-final consonants. We again have two ways to cater for these facts. Adding a new syllable type, CVC, to the existing inventory is possible, but the alternative offered above is also available: we may retain the one-member inventory (containing only CV) and have an empty V part this time. A CVC word is thus analysed as two CV "syllables", the second of which has an empty vowel. Harris Gussmann (1998, 141) claim that the latter strategy is followed by syllabic writing systems: these assign nonprevocalic consonants to an independent syllable with an uninterpreted vowel

(dummy syllables as Harris Gussmann refers to them). The theoretically desirable null hypothesis is to follow only one of the above methods to increase the number of surface syllable types: either to add new types to the inventory every time a language is found in which it is not possible to exhaustively parse any phonological string by the existing syllable types, or to adhere to the minimal set, containing only CV, and allow one or the other part not to surface. It is theories which simultaneously apply both strategies, that is, which allow **both** empty positions **and** syllables more complicated than CV, that depart from the null hypothesis. Since Indo-European languages are typically furnished with large sets of **superficial** syllable types, phonologists with such a linguistic background are bound to take it for granted that syllable inventories do contain such varied members. This bias may, however, be dismantled by starting out from the most basic – and perhaps only – syllable type, CV.

I hope to have shown that while the acceptance or otherwise of empty skeletal positions appears to be a matter of scholarly taste (analyses applying both approaches abound, after all), laying the burden of proof on theories with empty positions thinking that one has the null hypothesis on his side is not right after all. What the null hypothesis is thought to be in this issue is most probably a question of tradition.

2. Syllable structure

Many current theories of phonological representation assume one or more levels between feet and the skeleton in the prosodic hierarchy. These are occupied by so-called syllabic constituents which organize skeletal positions and other syllabic constituents into syllables. Syllabic constituents gain theoretical relevance when they prove to be indispensable in – or at least result in a substantial simplification of – the formulation of phonological generalizations.

Syllables, on the other hand, are not uncontroversial entities. The notion has been abandoned several times in the history of phonological theory, the best known case is probably that of the SPE (Chomsky Halle 1968). From the 1970s mainstream phonology has gradually returned to applying this traditional concept, but interestingly in most cases[7] it is not the syllable constituent

[7] Reduplication may appear be an exception, though here again it is often not a syllable that is repeated, but the **head** of the first onset and the following nucleus (Brockhaus 1995, 215ff).

itself that is necessary for the analyses, but its subconstituents, the onset, the nucleus and the coda.

2.1. Why have syllable structure?

It has been noticed — e.g., by Kahn (1976, 22ff) — that certain consonantal processes favour the phonological environment depicted in (4).

(4) $\left\{ \begin{matrix} C \\ \# \end{matrix} \right\}$

If syllables have a theoretical status, the environment in (4) can simply be referred to as the end of the syllable, i.e., its coda. There are two problems with this formula: first, it is not true that all preconsonantal consonants exhibit coda-like behaviour, for example, we find glottalization in an English word like *A*[ʔt]*lantic* but aspiration in *a*[tʰ]*ractive,* although the [t] is preconsonantal in both cases. Thus it seems that syntagmatic relationships in the string of segments are not in themselves enough to properly capture phonological environments. Second, even if they were so, the formula in (4) makes use of an unnatural disjunction: there is nothing more common in the word boundary and consonants than in, say, the word boundary and vowels.

As we have seen, the two contexts, _C and _#, can be unified by assigning both types of consonants to a coda constituent.[8] The relevant phonological rules can now be formulated by the structure in (5).

(5) coda
|
—

In the case of contrasts like *A*[ʔt]*lantic* vs. *a*[tʰ]*ractive* all there is to do is to assign one of the *t*'s to the coda and the other elsewhere — obviously to the following onset. In many cases such distinctions can be justified by independent evidence, in this one, for example, we can note that one of the clusters in question, *tl,* does not occur word-initially, the other, *tr,* does.

One cannot, however, be satisfied with this much. While a significant degree of descriptive adequacy is reached by the formulation in (5), explanatory

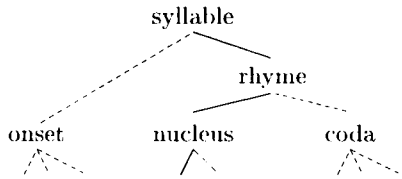
[8] Kahn (1976) himself does not apply syllabic constituents like coda, he unifies these positions as _$, i.e., the end of the syllable. The translation of this environment to "coda position" is, nevertheless, quite straightforward.

adequacy is still wanting. For example, lenition, a phenomenon typically associated with the coda position, manifested as glottalization in the previous example, may be adequately captured by the generalization that coda consonants lenite, there is, nevertheless, no reason why it should be the coda position of all that triggers weakening. One promising initiative to an explanation is made by Itô (1986) and Goldsmith (1990), who claim that codas have a weaker prosodic license than other domains of the syllable, therefore coda consonants are more prone to lenition. There is still ground for insisting on the question why it is codas that have a weaker prosodic license. An answer couched in the Government Phonology framework is proposed by Harris (1997), who posits a so-called licensing path in phonological domains ranging from the most prominent nucleus through least prominent ones to the onsets of these nuclei. The claim is that the further away a position is from the prime licensor, the more prone it is to lenition.

2.2. Problems with the standard view

In (6) I give a diagram that shows my interpretation of the syllable tree most widespread in the literature (e.g., Lass 1984, 252; Durand 1990, 204; Giegerich 1992, 138; Carr 1993, 196; Kenstowicz 1994, 253; Roca 1994, 141; Blevins 1995, 213).

(6)



The solid lines in (6) represent obligatory associations, the dashed lines are optional, i.e., one nuclear segment is obligatory for any syllable,[9] all the others – another nuclear segment and practically any number of onset and coda segments – may or may not be added to complete a syllable.

Given this syllable template syllabifying strings is still not a trivial issue: the length of both onsets and codas is rather flexible. Nuclei can be found applying the **sonority sequencing principle** (cf. Jakobson Halle 1956, 31f; Selkirk 1984, 116), one possible wording of which is quoted in (7).

[9] I do not claim that this **follows** from the presuppositions of the model, but that most theorists working in this framework work with this assumption.

(7) **The Sonority Sequencing Principle (SSP)**

Within a syllable sonority rises from the onset towards the nucleus and falls from the nucleus towards the coda.

That is, the sonority peaks of a certain string, away from which sonority falls in both directions, can be identified with the syllabic nuclei. Even if nuclei are spotted easily, the consonantal interlude streching between two sonority peaks must be properly distributed among the coda and the onset. To be able to do this in a principled way the **onset maximization principle**[10] (cf. Clements Keyser 1983, 37, who call it the Onset First Principle) is formulated to the effect of (8).

(8) **The Onset Maximization Principle (OMP)**

If a consonant can be assigned both to a coda and the following onset, assign it to the onset.

Equipped with this principle, consonantal interludes can be unambiguously divided: in a $VC_nC_{n-1}\ldots C_2C_1V$ string C_1 always goes with the second vowel, then one has to test whether C_2C_1 is a valid onset, if yes it goes with the second vowel, else the syllable boundary is between C_2 and C_1, and so on. One difficulty comes with deciding whether a given consonant cluster is a valid onset or not. The assumption that the set of word-initial clusters is coextensive with that of valid onsets — and likewise that of word-final clusters with that of valid codas — is often accepted (cf. footnote 2) but rarely if ever supported by any evidence. In fact, what can be supported by empirical evidence is the falsity of this hypothesis, as, for example, the **closed syllable adjustment** rule of French shows. According to this rule [e] and [o] surface as [ɛ] in closed syllables, and although sC clusters do occur word-initially, they also close a syllable: we find [ɛ] before sC clusters (Lowenstamm 1981, 598f). If sC clusters are heterosyllabic within a word, then it cannot be concluded that the set of well-formed onsets is that of word-initial clusters. On the other hand, in most — perhaps all — languages single consonants that can turn up before a vowel may also turn

[10] An alternative, negative name of the principle could be the "coda minimalization principle." Both names convey the superiority of onsets over codas. In Optimality Theory the same idea is manifest in the ONSET and NOCODA constraints.

up word-initially.[11] On the other hand, it is not true that in all languages single consonants that can turn up before a consonant may also turn up word-finally —this is most evident in the case of languages that have word-internal codas, but lack word-final consonants, like Italian. Also word-final consonants can very often not stand before a consonant word-medially – the distribution of English [ð] and the affricates could exemplify this situation.[12] Therefore, we may conclude that the only inference that can be drawn is the following: whatever is an onset may turn up at the beginning of a word. To schematize:

(9) The relationship of consonant(s) at word and syllable margins

NAIVE VIEW
word-initial consonant (cluster) ⇔ syllable-initial consonant (cluster)
word-final consonant (cluster) ⇔ syllable-final consonant (cluster)

EVIDENCED VIEW
word-initial consonant (cluster) $\overset{\not\Rightarrow}{\Leftarrow}$ syllable-initial consonant (cluster)
word-final consonant (cluster) $\overset{\not\Rightarrow}{\not\Leftarrow}$ syllable-final consonant (cluster)

Another method that may be of use in determining the end of the coda and the beginning of the onset, i.e., the syllable boundary, is provided by the **sonority dispersion principle** proposed by Clements (1990), quoted in (10).

(10) **The Sonority Dispersion Principle (SDP)**

(a) The preferred initial demisyllable maximizes the dispersion in sonority.
(b) The preferred final demisyllable minimizes the dispersion in sonority.

An initial demisyllable is the first half of the syllable up to and including the vowel – with certain language specific differences in the case of long vowels and diphthongs –, a final demisyllable is the second half from and including the vowel; i.e., the onset with the (first half of the) nucleus and the (second half of the) nucleus with the coda, respectively. Sonority dispersion is maximized if the individual members of the demisyllable are evenly distributed on the sonority

[11] Counterexamples include [ɾ] and [ŋ] in English, as Péter Siptár (*voce*) points out. To explain them away, the first is a variant of [t] or [d], thus its status is not obvious, the special status of the second is copiously documented, see Gussmann (1998) for a recent discussion. In other words, these segments are positional (and these positions do not include word-initial position) variants of others.

[12] The only counterexamples are *rhythmic* and *logarithmic* for [ð] – both have forms, *rhythm* and *logarithm*, in which the [ð] and the [m] are not adjacent (both [-ðəm]) –, and some other syncope created clusters like in *natural* ['nætʃrəl] for the affricates.

scale: in an initial demisyllable the first member being the least sonorous (an obstruent[13]), the last the most sonorous (a vowel) and if there is a further member between them then that should be a liquid. In the final demisyllable, sonority dispersion is minimized, that is, the best case is not to have a coda at all, or at least have very sonorous segments in it. The OMP is a derivate of the SDP: it is not only preferable not to have a coda, but also to have an onset and thereby a large – or at least some – sonority distance in the onset nucleus sequence.

In the case of a string like *atla* the SDP prefers the syllabification *a.tla,* yet in many languages, including English or French, *at.la* is the accepted division, since *tl* is not encountered word-initially and – as already noted – the [t] behaves differently before [l] and [r]. The third logical possibility, *atl.a,* is the worst, it even violates the SSP, introduced in (7). What we end up with is a situation where in order to satisfy the OMP, the SDP has to be frustrated. One way out of this situation is to abandon the apparently self-evident hypothesis that superficial adjacency is evidence of adjacency at all levels.[14] Syntacticians have long noticed this fact,[15] for phonologists it still is not always obvious. Accepting the – let's call it – adjacency hypothesis makes it seem trivial to determine syllable structure simply by looking at the string of segments constituting the word. The price to pay is that we have to content ourselves with dispreferred syllable structures and contacts, on the one hand, and the excessive complexity and number that syllable types will exhibit, on the other. If we are not willing to pay this price, we have to allow some degree of abstraction – although it is controversial whether this is indeed a departure from the null hypothesis after all, as shown in section **1.2** –, dispensing with the view that adjacent segments are necessarily adjacent underlyingly. In this way, syllable structure can be radically simplified.

[13] Clements assumes a five-step sonority scale: obstruents < nasals < liquids < glides < vowels. He claims that the algorithm he gives for measuring sonority dispersion also works for more refined scales, but argues that such scales lose cross-linguistic generalizations and become too language specific.

[14] Miklós Törkenczy (*voce*) notes the intriguing fact that the opposite is not true: in the mainstream phonological literature it is often argued that superficial **non**-adjacency involves elements that are adjacent in the representation, in e.g., long-distance assimilation and dissimilation phenomena.

[15] For example, current syntax posits an empty category in the string *the man I want* ∅ *to go* but not in *I want to go* in order to explain, among other things, the impossibility of *wanna*-contraction in the first.

3. Empty nuclei in the skeleton

In this section I am going to introduce a train of thought that allows skeletal positions to remain empty, abandoning the adjacency hypothesis. Government Phonology (GP), especially Kaye et al. (1990), Kaye (1990) and Charette (1991), is one theory that uses empty vocalic positions, but is not unique in this respect, cf., for example, Anderson (1982), Spencer (1986), Burzio (1994), Siptár Törkenczy (2000).[16]

One motivation for Kaye et al. (1990) to assume empty nuclei bears close resemblance to the impasse situation encountered above, the syllabification of *atla*. The claim is that any two consonants that are indeed adjacent are in a governing relationship with each other, i.e., one of them governs the other. The governing potential of specific consonants is determined by their melodic content:[17] some consonants are typically governors, others typically governees. As a result, if a consonant cluster xy is established as a coda x followed by an onset y — in which then y governs x —, the opposite, yx, will definitely not be the same type of cluster, coda–onset in this case, since that would require the previous governing relationship to be swapped, the governor y to now be governed by the governee x. This is deemed impossible, because codas must always be governed by the following onset the theory claims.

Translated to our case, if *alta* is syllabified *al.ta* and there is good reason to do that: having a small sonority distance in the nucleus–coda sequence and a great one in the onset–nucleus sequence, it perfectly matches the requirements of the SDP , *atla* cannot be analysed as a coda–onset cluster too, i.e., **at.la*.[18] If we are also unable to squeeze both consonants into the onset (**a.tla*) or the coda (**atl.a*), there is no possible syllabification in a model that accepts the adjacency hypothesis. It would be desirable to say that the *t* of *atla* is an onset

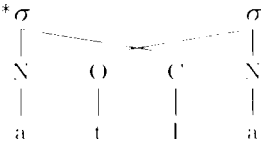
[16] It is interesting to note that hypothesizing empty consonantal positions is more obvious — and chronologically earlier (e.g., Selkirk Vergnaud 1973; Clements–Keyser 1983) — than empty vocalic positions: the silence of the former is more straightforward than that of the latter.

[17] In some versions of the theory governing potential is a function of the charm value of the given segment (e.g., Kaye et al. 1985; 1990), but then charm is dependent on melodic content.

[18] Note that Clements's (1990) theory would allow this option, albeit as a highly marked and unpreferable syllable contact. By doing so, Clements is paving the way towards Optimality Theory, where "anything goes," constraints are more or less preferably violable (cf. Prince–Smolensky 1993).

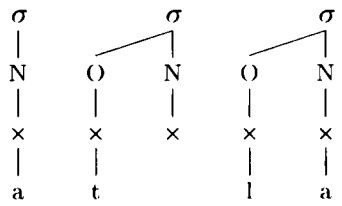
and the *l* a coda, since as the SDP suggests *t* is an ideal onset consonant, and *l* is okay for a coda. This would unfortunately lead to a violation of the constraint banning crossing lines as shown in (11), where σ denotes the syllable node, O, N and C should be obvious.

(11)



Allowing melodically empty skeletal positions into our theory offers a solution to this problem: we are now able to say that the two consonants are not adjacent underlyingly, there is an empty vocalic[19] position (∅) between them. Thus we can have both consonants in separate onsets (*a.t∅.la*), in an onset and a coda (*a.t∅l.a*, this is a possible manifestation of the idea in (11)) or in separate codas (*at.∅l.a*), though the second option is a bit strange, the last one rather perverse and neither is favoured by the SDP. The two-onset representation is the most plausible, (12) shows this option syllabified with an empty skeletal position. The skeletal tier is now included since once we have empty positions on it the alphabetic symbols abbreviating melody cannot simultaneously represent skeletal positions anymore.

(12)



It is an interesting question to ask how the SDP would react to the syllabification *a.t∅.la*. The sonority of an unpronounced segment is undefined, therefore the sonority rise in the syllable *t∅* is indeterminable. Nonetheless, the absence of codas is of merit in the eyes of the SDP; onset maximization is fully performed.

There seems to be a difficulty with this solution. As we have seen in section **1.1,** the phonetic interpretation of melodically empty skeletal positions

[19] Of course, one might hypothesize an empty consonantal position between the two consonants but that would not bring him any closer to a viable analysis: hosting the extra C position is yet another pain in the neck.

is not obvious: it may be the most unmarked vocalic segment ([ə ɯ i] or something similar) if dominated by a nuclear position, or the most unmarked consonantal segment (the identity of which is debatable and indeed debated in the literature) if dominated by a nonnuclear position, i.e., the onset or the coda. This means that the phonetic interpretation of the representation in (12) should be [atəla] or [atɯla], a pronunciation that would cause no debate in phonologist circles as regards its syllabification. If we are to maintain the results of section **1.1** and posit **unpronounced** empty positions simultaneously we have to claim that some melodically empty skeletal positions are pronounced, others are not. The theory must provide some means to predict the pronunciation or nonpronunciation of a skeletal position in each case. GP's solution is the formulation of the phonological **empty category principle,** of which I will here mention but one clause: "a melodically empty skeletal position remains unpronounced if properly governed [...]" (Kaye et al. 1990, 219). I am not going to present all the details of proper government at this point. Let it suffice that a vocalic position is properly governed if followed by one consonant and a pronounced vowel. It is in fact this vowel that is said to govern the one that precedes it, i.e., in the configuration V_1CV_2 V_2 properly govern V_1.

To conclude the discussion of empty positions, we may say that by positing empty nuclear positions in the skeleton the theory reduces the cases where consonants are syllabified into the coda position. This tendency is in line with the generally accepted view that onsets are to be preferred over codas in syllabification. One salient feature of GP is its affinity to turn generalizations that other theories look at as universal preference statements into unviolable constraints. This property distinguishes the approach quite radically from Optimality Theory, where any constraint is violable. In the case discussed above, the fact that an obstruent liquid cluster is a dispreferred coda onset cluster is tightened to the claim that it **is never** a coda onset cluster. If one dares take this thought to its conclusion, the next question to ask is if codas exist at all, after all the optimal final demisyllable is one without a coda. We are going to proceed in this direction.

4. Does the coda exist?

What we have to examine is the arguments supporting the existence of the coda position. As it was already noted there is a sharp asymmetry between the two margins of the syllable, the onset and the coda. The most unmarked syllable type, available in all languages, is CV, i.e., one that contains an onset

but no coda. Furthermore, while in the unmarked case the onset is obligatory, it is the marked case to have a coda.

One of the reasons why codas are posited in the first place is the assumption that syllable boundaries and word boundaries coincide. If consonants are found at the right margin of words then they obviously occupy the right margin of a syllable. But, as we have seen, there is also phonological evidence which indicates that word-final consonants are not uncontroversially codas.

Codas also have explanational value in the formalization of stress rules. In languages with unfixed stress, rules are often sensitive to syllable weight. The usual case is that syllables with only a short vowel count as light (therefore usually unstressable), while syllables more fleshy than that — either closed by a consonant or containing a long vowel — are heavy (and attract stress). Positing a constituent, the rhyme, dominating the nucleus and the coda facilitates the definition of heaviness: syllables with rhymes containing one segment are light, those with multisegmental rhymes are heavy. Unfortunately, neither the branching of the rhyme, nor that of the nucleus may be held to be responsible for heaviness, all we can say is that one of the two must branch. Another problematic aspect of this approach to syllable weight is the fact that onsets (apart from very few and therefore suspect cases) do not contribute to it. One either stipulates that only the size of the rhyme is relevant or offers some theory that assigns weight, standardly referred to as mora, to the appropriate segments. However, even the latter option does no more than formalizing the observation that coda consonants do, while onset consonants do not influence the weight of a syllable, without explaining why this and not the opposite should be the case. The alternative to be discussed below fares better in both respects: it explains why both closed and long-vowelled syllables are heavy and why onsets do not count.

The minimal word phenomenon, that constrains the size of lexical words in a number of languages as diverse as English, Hungarian, Beijing Mandarin, Khalkha Mongolian and Turkish, also depends on a plausible formulation of heavy syllables. The observation is that in these languages a lexical word cannot be a single light syllable, it must minimally either be a heavy syllable or two light syllables. In monosyllables the necessary weight is provided either by the length of the vowel or a final, allegedly coda, consonant.

One of the standard arguments for constituenthood in the subsyllabic domain is the existence of phonotactic constraints. For instance, the very strict restrictions holding between the two members of a branching onset — disregarding sC clusters now — may be seen as evidence that such consonants form

a constituent. Similarly, in nuclei the types of attested vowel clusters, i.e., diphthongs and long vowels, is restricted to a small subset of all the possibilities. As opposed to this, very few qualitative phonotactic constraints apply to VC clusters, that is, within the rhyme. Where we do encounter phonotactic constraints between consonants is in intervocalic and word-final clusters. Intervocalic clusters of the type [nt], [mp] are rather unanimously analysed as heterosyllabic, coda–onset clusters. Yet, it is not usual to consider these clusters as members of the same syllabic constituent. Therefore, we may conclude that the existence of some phonotactic constraint between two segments does not necessarily imply that they share their host constituent.[20]

Recall that different syllabifications were suggested for *al.ta* and *a.tØ.la*, as shown here. If we accept that some intervocalic consonant clusters are coda–onset clusters, while others are onset–onset clusters containing an empty nucleus between them, our theory becomes indeterminate. Nothing excludes the syllabification *a.lØ.ta*: there will be no way of knowing whether a cluster that satisfies the criteria for coda–onset clusters is to be analysed as such or as an onset–onset cluster that accidentally happens to contain consonants which would also make a coda–onset cluster.[21]

To summarize: the theoretical status of the coda is strongly challenged. It is an outcast in markedness universals: onsets may even be obligatory but are never impossible in languages, codas are never obligatory and may even be impossible. Though positing a coda position seems to help in distinguishing heavy and light syllables, there are serious problems with the formulation. Finally, the possibility of analysing some clusters both as coda–onset and as onset–onset clusters loosens the theoretical tightness of the framework.

5. Without codas

Making a constraint out of the preference of the Sonority Dispersion Principle, one may claim that all syllables have an onset and none have a coda

[20] Notice that this conclusion also threatens the status of the onset as a constituent.

[21] Of course, phenomena like closed syllable shortening or heaviness for stress assignment may tilt the balance in this or that direction, but only in case C.C and CØ.C are treated differently in the analysis of these phenomena.

(cf. Lowenstamm 1996).[22] Setting aside for the time being the possibility of having more than one consonant in a single onset constituent, this means that whenever we find a consonant that is not followed by a vowel it must be followed by an empty nucleus – to make it, at least theoretically, an onset.

It is important to bear in mind that the question whether something is in coda position or not is not an empirical one; this property does not in itself have any physical correlate. The rationale of positing a coda position is to unify the contexts that pattern together in certain phonological phenomena. If these contexts may be unified by other means there is no strong argument for keeping codas in the theoretical vocabulary, unless one needs them for descriptive purposes, as a dated but useful term, similarly to the way a syntactician would refer to S(entence)s even after showing that they are I(nflection)P(hrase)s or C(omplementizer)P(hrase)s. This is the sense the word coda will be used hereafter. Actually, if codas do not have a theoretical status then it does not make much sense to talk about onsets either, even if – what is kept in benign ignorance – they are imagined to be potentially branching; the onset constituent becomes **the** consonantal domain, as opposed to the nucleus, which is, and always was, the vocalic domain. What are thus left of syllabic constituents is a consonantal and a vocalic constituent.

Having stripped syllabic constituency so brutally, one might as well take the last move and claim that neither the consonantal, nor the vocalic constituent ever branches, that is, the skeleton contains a strict alternation of consonantal and vocalic **positions**; this is exactly what Lowenstamm (1996) does. Arguments for this final step do not readily offer themselves, some motivations will, nevertheless, be pointed out in the next section. Even without explicitly arguing against branching nuclei and branching onsets, formal simplicity is a criterion that opts for nonbranching constituents. Recall (from section **1.2**), starting out from the simplest syllable inventory, containing exclusively CV, it may be possible to resist any extension of that set by imagining one or the other side of the CV syllable to be empty.

[22] Note that GP theorists regularly argue that the coda **consituent** is nonexistent in their theory. There still is a coda **position** in GP, since rhymes may branch, what the right branch dominates is the coda as opposed to the other two consonantal positions that are in the onset (which may also be branching), i.e., the term coda is a shorthand for the "postnuclear rhymal complement". My aim above, however, was to show that as regards their skeletal status all consonantal positions are equal, the only difference is whether a consonantal position is followed by an interpreted vocalic position or not.

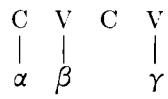
In this section we are going to see the way the CVCV framework handles some coda-related phenomena discussed in section **4.**

5.1. Heavy versus light syllables

In a theory comprising only CV pairs to represent syllable structure, a light syllable will be made up of one such pair, while a heavy syllable will contain two of them as shown in (13), where the Greek letters stand for any, potentially identical, melodic material (if identical, the two symbols are merged in (13b)):

(13) (a) LIGHT SYLLABLE

(b) HEAVY SYLLABLE TYPE I



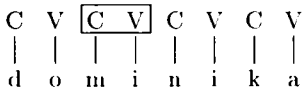
(c) HEAVY SYLLABLE TYPE II

The advantages of the representations in (13) are the following: (i) the formulation of what constitutes a heavy syllable is much more elegant than if we were using the coda, all that has to be distinguished is one vs. two CV pairs, as opposed to statements like "**either** the nucleus **or** the rhyme is branching." (ii) We get an explanation of why onsets do not contribute to syllable weight: paradoxically rhymes do not contribute either, the question itself loses its significance. All we need for a heavy syllable is two pronounced CV pairs, that is two CV pairs both containing some melodic material.[23] The onset of such a syllable is the C of the first pair but whether it is filled or not is immaterial, since its V will be filled, that is why it is taken to be a syllable in the traditional approach. In a sense then a CV slice of the skeleton is the equivalent of the mora in frameworks that measure syllable weight by that means, but unlike moraic frameworks we get a nonstipulative account for the lack of onset weight. The CVCV approach, however, still owes an explanation for why word-final consonants often fail to contribute to syllable weight.

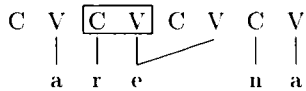
[23] In a subset of the languages distinguishing heavy and light syllables only (C)VV, but not (C)VC counts as heavy. In such languages it is apparently the pronunciation of the V part of the CV unit that is taken into account. Crucially, no language takes (C)VC to be heavy to the exclusion of (C)VV. This falls out neatly in the CV model: in such a language the interpretation of the V should matter in the first, but that of the C in the second CV pair. With rhymes and nuclei it is not so evident why there exist no languages where the branching of the rhyme would make a syllable heavy, that of the nucleus would not.

Note also that in languages like Latin or English, where stress rules typically take the form "if the penult is heavy stress it, if it is light stress the antepenult," there is room for a simplified formulation: e.g., stress the third last CV pair, boxed in the Latin words illustrating the rule in (14):[24]

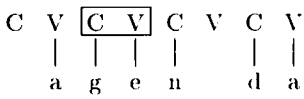
(14) (a) *domínica* 'lord adj.fem.'



(b) *aréna* 'sand'



(c) *agénda* 'things to do'



It is rather complicated to capture the minimal word constraint, which limits the size of content words to two moras at least, in the traditional GP framework. Since word-final consonants are claimed to be onsets followed by an empty nuclear position, one has to say that either the nucleus of the only syllable of the minimal word must branch or the word must contain two onset rhyme sequences.[25] The CVCV formulation is trivial: the minimal word contains two CV pairs (perhaps in order to be stressable).

5.2. Compensatory lengthening

Compensatory lengthening is another phenomenon that appears to call for coda positions in representations. After the total lenition of a consonant in a weak prosodic position the loss is made up for by the propagation of either the preceding vocalic or the following consonantal material, for example, the reconstructed Greek form *[esmi] is realized in Classical Attic as [e:mi] 'I am', while Aeolic has [em:i]. The latter event, where the place of a consonant is taken up by another consonant, is rather easy to handle for both theories. Vowel lengthening on the other hand happens again in violation of structure preservation in the coda approach: what used to be a consonantal position,

[24] The situation is not as neat as depicted here. Difficulties arise in the following cases: the third last CV pair may contain an empty V position, stress in this case appearing on the fourth (*fórmula* 'rule'), word-final long vowels count as if short (*fáci-o* 'make') and word-final consonants do not count (*ácidus* 'sour').

[25] An alternative, slightly less disjunctive but no more plausible formulation is the following: a minimal word must contain two slots dominated by a nuclear node.

coda, is lost and a vocalic, nuclear position appears instead. The model offered by the CVCV approach does not face such problems: the vacation of the C position by the loss of [s] either opens the way for the following C position to occupy it (15c) or removes the obstacle that has prevented the preceding V from taking it (15b). Which of the two strategies is applied can be predicted on a language – here dialect – specific basis: it looks very much like a parameter.

(15) (a) Reconstr. *[esmi]

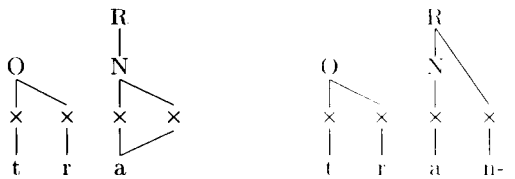
(b) Attic [e:mi]

(c) Aeolic [em:i]

6. Against constituency

All three syllabic constituents, the onset, the rhyme and the nucleus, are imagined to be potentially branching by GP theorists and most mainstream researchers alike (for the latter, even the coda is potentially branching). In the former, more restrictive, framework a maximal syllable has one of the structures depicted in (16).

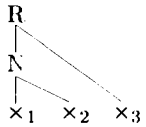
(16)



In a GP-like framework the nonexistence of codas amounts to the claim that the rhyme constituent does not branch, and if it does not branch it is not a syllabic constituent – it shares the fate the coda has suffered earlier. It is in fact a felicitous development of the theory to have got rid of the rhyme constituent, which is a nuisance in more than one respect. For one thing, the rhyme is the only syllabic constituent that does not dominate exclusively skeletal slots but also another syllabic constituent, the nucleus. This fact has led to uncertainty about whether and why a branching nucleus may occur in a branching rhyme. In one view (that of, e.g., Kaye et al. 1990) it cannot, because in such a constituent – shown in (17) for those with a visual disposition – no head can be assigned. The two constraints that head and dependent must be adjacent and that their relationship is unidirectional destroys the hopes

of all three possible candidates: the first is not adjacent to the third, the second would have one dependend on the left, one on the right, the third is not adjacent to the first.

(17)



However, when forced to accept the structure in (17), as Harris (1994, 68f, 76f, 82f) is in order to cater for words like *dainty, easter, b*[ɑ:]*sket, saint, post, wild*[26] etc., one may seek refuge in the idea that the head of the rhyme is not on the skeleton, but it is the nuclear node itself. It is not unreasonable to look for the head of a constituent among its daughters, after all. If the rhyme should no more exist, the dilemma also perishes.[27]

If syllable heaviness is not (merely) a function of the number of skeletal positions in the rhyme, representing long vowels and diphthongs by branching nuclei becomes much less obvious. The wish to keep syllables together as onset rhyme sequences is also in vain if codas are let loose. The "phonetic unity" of long vowels whatever that should mean is not a strong argument: a long vowel is just as much a unit as a long consonant, the latter is, nevertheless, a coda onset cluster, thus not one constituent, in most frameworks. (Not to mention the fact that without codas long consonants hopelessly become CØC clusters.)

The claim that "all feet are minimally binary and that the word in many languages must consist minimally of a foot" (made by McCarthy Prince (1986) and quoted by Harris (1997)) suggests that just as [tata] and [tat] (the latter obviously *tat*Ø) are binary feet hence qualify for minimal words in the languages concerned , [ta:] must also somehow make a binary foot. The number of vocalic positions involved in the string is undisputedly two, but the immediate constituens of foot nodes are usually either syllable nodes or, in their absence, nuclei. Only by analysing the [a:] as two nuclei, i.e., NØN, do we obtain a binary foot, thus satisfying the minimal limit on word size. Note that the same argument was already brought up in section **5.1** cast in a slightly different form.

[26] Though Harris does allow type (17) superheavy rhymes (1994, 69, 83), he also has to strictly limit their occurrence to ones with coronal and very few other consonant clusters.

[27] The problem of superheavy rhymes unfortunately does not disappear with this move.

Kaye (1985, 290f) and Lowenstamm Kaye (1985 1986, 99f) claim that there is an implicational relationship between branching rhymes and branching onsets. The observation, called the **rhyme-dominant principle,** is that languages having branching onsets invariably have branching rhymes (i.e., closed syllables), while the opposite is not true, languages with branching rhymes may or may not have branching onsets. To put it in other words, branching onsets are more marked than closed syllables.[28] Whether this calls for the abandonment of the hypothesis that onsets, or rather, the consonantal constituent, may branch is not fully obvious. The question basically boils down to the markedness of branching constituents and that of empty skeletal positions.[29] Theoretical uniformity requires either the retention of constituency throughout the whole range of syllabic constituents or their total abandonment, which means positing a C∅C structure to branching onsets as well.

One last consideration that is relevant for the total rejection of syllabic constituency is that if the skeleton contains strictly alternating C and V positions – no adjacent Cs and no adjacent Vs – then it is trivial to parse a phonological string, provided the listener can distinguish consonants and vowels: whenever he encounters two instances of the same category an empty position of the opposite type must be inserted between them, while two different categories will be adjacent.[30] This advantage is not available in a system where at some points one may assume two adjacent Cs or Vs, at another they will be separated by an empty category. Consequently, allowing empty skeletal positions into phonological representations concludes to the hypothesis that the phonological skeleton must be made up of strictly alternating Cs and Vs.

[28] Lowenstamm Kaye (1985 1986, 111) also claim that long vowels are more marked than closed syllables, that is, there exist no languages with long vowels and/or heavy diphthongs and only open syllables. If one accepts the proposal suggested here, this is a further argument for the V∅V representation of long vowels.

[29] There is a third possibility, branching onsets could be considered to be contour segments (cf. Steriade 1993; Rennison 1998). This idea includes large scale reshuffling of segmental representations, space limitations inhibit further discussion here.

[30] This is only true if two adjacent empty positions are not allowed, two instances of the opposing categories may or may not be adjacent (C∅∅V or V∅∅C).

7. Conclusion

In this paper I collect evidence for a rather impoverished model of prosodic structure, one that involves strictly alternating consonantal and vocalic positions. These two skeletal primes are not incorporated in further structures, thus the traditional notions syllable and syllabic constituent are dispensed with, as well as the need for any dispute about hierarchic vs. flat syllable structure and moraic vs. other weight metrics. Whether their functions can exhaustively be taken over by the simplistic organization proposed is beyond the scope of the present paper, but indications of a positive answer are suggested by recent work in the area (e.g., Harris 1997, Ségéral Scheer 1999, Dienes Szigetvári 1999).

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LEXICAL RETRIEVAL OF COMPLEX PREDICATES IN AN AGRAMMATIC APHASIC SUBJECT'S SENTENCE PRODUCTION*

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Abstract

In this paper we report on the investigation of those factors which have a role in the lexical selection of complex predicates, verbal modifier+verb constructions, in the sentence production of a Hungarian agrammatic Broca's aphasic speaker. Two variables were investigated (i) the lexical representational complexity of VM+V units: the target complex predicates contained a prefixal preverb or argumental preverbs and (ii) syntactic complexity of the sentences into which the complex predicates were mapped: the target sentences were neutral and non-neutral sentences. Two methods were used, sentence anagram and sentence repetition tasks.

The results indicate that the vulnerable part of the complex predicate is the Verbal Modifier part. In reproducing sentences verbatim, VM errors occurred in higher proportion than base V errors.

VM omission and substitution errors were found only in non-neutral sentences and in neutral sentences modified by a sentential adverb. In sentences containing operators a "verb movement effect" was found: the proportion of VM substitution errors was significantly higher in those sentences which contained focussed, wh- and negated constituents. Error rates of VMs were much lower in sentences which contained universal quantifier phrases. The data suggest that the lexical retrieval of complex predicates correlates with a syntactic operation, verb movement to F. It can be assumed that there is a trade-off between the lexical retrieval of complex predicates and the use of verb raising to Focus head, if the resource capacity is limited within the impaired sentence production system. Verb movement to F can be achieved at the cost of incomplete lexical access to complex predicates.

The semantic type of VMs also had an effect on the lexical retrieval of complex predicates: prefixed verbs are less vulnerable than complex predicates containing argumental preverbs, predicative complement and bare noun types of verbal modifiers.

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1. Introduction

Nonfluent Broca's aphasia is associated with damage to the left frontal lobe of the brain: the lesion usually involves Broca's area (a region in the third frontal convolution), but adjacent and deeper areas of the anterior part of the brain are also affected (Naeser et al. 1989).

Based on several systematic studies of the language deficit of Broca's aphasics, it was recognized that Broca's aphasia involves a range of linguistic impairment in both language production and comprehension. The verbal output of Broca's aphasics can be characterized by a variety of symptoms: articulatory disturbances, phonemic and semantic paraphasia, nonfluent, reduced, effortful speech, and "telegraphic" style. Spontaneous speech is syntactically limited, deficient, "agrammatic". The most striking feature of agrammatism is the dysfunction of the ability to construct syntactic structures. Agrammatic patients often produce fragments: incomplete minimal phrases (DP, PP, VP) and sentences (IP/S) from which complements (obligatory and implicit arguments), modifiers and often the verb itself are lacking. The assignment of superficial sentence features is also disturbed: tense and agreement morphemes, case markers of arguments (case suffixes, prepositions or determiners), verb inflexional endings and other function words are often omitted or substituted. The patients often produce only automatic, idiomatic phrases, speech panels with low productivity, isolated nouns or adverbs.

Agrammatic aphasics produce primarily simple SV, SVO structures. Complex sentences, e.g., passives, wh-questions, object relatives and embedded clauses are rarely used. Broca's aphasics exhibit verb retrieval difficulties. If they produce verbs, verbal inflexion is often deficient or the verbs lack inflection (infinitives or gerunds are used).

2. Verb production in agrammatism

The patterns of verb production in agrammatic speech have been widely investigated using different methods (analysis of verbs in conversational speech, sentence elicitation tasks like action description, as well as tests at word level like verb form repetition tasks or action naming tasks). Agrammatic aphasics show a marked deficit in verb retrieval, verbs are underrepresented in their spontaneous speech, lexical verbs and auxiliaries are equally affected (Saffran et al. 1989). The analysis of spontaneous speech samples of Hungarian aphasics shows that the proportion of lexical verbs used by aphasics is much lower in

the nonfluent aphasic subjects' corpus than in the fluent anomic and normal control group (Kiss 1994).

Some Broca's aphasics show consistent selective deficit for verbs and verb-noun dissociation can occur in their verbal output. Results from picture naming tasks demonstrate that verb retrieval is significantly more impaired than noun retrieval in agrammatic aphasics, whereas anomic aphasics show the opposite pattern (Miceli et al. 1984; Zingeser Berndt 1990; Marshall et al. 1993). Others, however, did not find differences between agrammatics and anomics in action naming: both aphasic groups' performance was better in naming objects than in naming actions (Williams Canter 1987).

Verb noun dissociation in agrammatism suggests that grammatical class or syntactic category is an important dimension of lexical organization. Some authors come to the conclusion that noun and verb information may be stored separately in the mental lexicon and are processed by distinct or different output systems. They explain agrammatic speakers' problem with verb production by a deficit that is located at some stage of lexical processing, assuming a disruption to a subcomponent of the mental lexicon which stores lexical elements specified for verb category (Miceli et al. 1984; 1989; McCarthy Warrington 1985).

Further investigations demonstrated, however, that this kind of lexical explanation is insufficient in itself because the verb production difficulty in agrammatism exhibits the picture of a selective rather than an unselective disorder, verb production is differently affected: (i) agrammatic aphasics, although in low proportion, are able to use verbs in their spontaneous speech, (ii) certain types of verbs are better preserved while others may be more difficult, (iii) the proportion of the activated verbs in speech is strongly task-specific, e.g., the proportion of verbs is much higher in action picture description tasks than in conversational speech, (iv) verbal inflectional morphemes are not equally disturbed in agrammatic speech, their successful production depends on the syntactic position of the verb in the sentence structure.

To describe factors playing a role in verb production difficulty, recent investigations focus not only on the lexical but also on the morphological and syntactic aspects of verbs. One of the factors that have an effect on verb retrieval is the syntactic and semantic properties of the lexical representation of verbs, like argument structure, thematic role and subcategorization characteristics. Some researchers assume that Broca's aphasics are more successful in producing less complex verbs: verbs with more, rather than fewer, arguments are more difficult to retrieve. According to the data of Byng (1988), English

agrammatic aphasics use fewer complex verbs (verbs assigning two or three arguments). Others found that the number of arguments does not necessarily have an effect on the selection of verbs. Jonkers Bastiaanse (1996) found that their Dutch agrammatic aphasics named transitive verbs easier than intransitive verbs. Investigation of two Hungarian agrammatic aphasic subjects revealed differences in the proportion of activated verbs within the category of one-place predicates: one-place reflexive verbs (containing an inner Patient argument in their semantic representation) and one-place verbs derived from a noun were more difficult to retrieve for the patients in an action description test than morphologically simple one-place predicates. The distribution of transitive verbs and morphologically complex one-place verbs was equal (Kiss 1997).

Thompson et al. (1995) analysed verb production by type in conversational speech samples of agrammatic and non-brain-damaged subjects. Their results show that agrammatic speakers produced significantly fewer verbs than normals, they preferred to produce simple one- and optionally two-place verbs. Normal control subjects used significantly more three-place, complement and phrasal verbs. Agrammatics tend to use complex verbs (those which allow more argument structure arrangements or optional arguments) in their simplest form: if the verb allows both NP and sentential complements, agrammatic aphasics prefer to build the NP complement into the sentence; if the verb selects an implicit argument, the patients usually do not express it syntactically, they omit the non-obligatory argument from the syntactic structure. Thompson et al. found a similar tendency in an action naming task. In the confrontation naming condition a hierarchy of verb difficulty emerged, "three-place and complement verbs were the most difficult to produce, two-place verbs were less difficult..., and one-place verbs were produced correctly more often than the other verb types" (1997, 482). When the patients were instructed to form a sentence describing a given action, the correctness of sentences was influenced by the number of arguments, the type of argument, the complexity of arguments and the obligatory vs. optional nature of arguments.[1]

[1] Agrammatic aphasics produced sentences with one argument correctly more often than those with more arguments, the difference was also significant between the production of sentences with two arguments as compared to three. Sentences with only an Agent/Experiencer were produced correctly more often than verbs requiring Theme/Patient, sentences involving a Goal/Location or a sentential complement were produced correctly significantly less often than those with a Theme/Patient. Percentage of correct production of sentences was higher with sentences containing only one possible argument structure arrangement than those having more. The production of sentences containing verbs with obligatory arguments was better than those with optional arguments.

Based on these findings two predictions might be made: (i) for agrammatic aphasics full activation of argument structure information of the verb is not possible, (ii) argument structures that presented difficulty for the subjects require a more complex syntax (e.g., sentential complements require an embedded clause) than arguments that presented less difficulty. In this respect, the verb selection problem is closely related to the restricted syntactic ability of Broca's aphasics.

Thompson et al. concluded that their agrammatic subjects "do not appear to completely activate the full range of lexical properties available, given a particular verb" (1997, 487). In the case of verbs with optional arguments, for instance, agrammatic aphasics activated only the simplest arrangement of thematic roles among argument structure options. (At the same time, the same patients were better in constructing sentences with obligatory two- and three-place verbs in sentence construction tests.)

Explanation (i) is challenged by the data of Shapiro Levin (1990) and Shapiro et al. (1993) who found that "access to the lexicon and to a verb's thematic information is normal for agrammatic Broca's patients" during online sentence comprehension (Shapiro Levin 1990, 40). In a cross-modal lexical decision task the same reaction time patterns were found for verbs with different representational complexities in the agrammatic and non-brain-damaged control groups. In the case of verbs that allow more semantic types (four argument-structures, e.g., *remember* vs. two argument-structures, e.g., *accept*) or assign more arguments (transitive vs. dative verbs) in their lexical entries, longer reaction times were observed during the activation of information in the representation of verbs. Verbs allowing only one argument structure arrangement (transitive and obligatory three-place verbs) did not differ significantly in contrast with verbs that allowed both a two-place and an optional three-place argument structure (alternating and nonalternating dative). Shapiro et al. (1987) found that normal control speakers performed similarly in the same lexical decision task.

Longer reaction time for complex verbs indicates that processing load increases during the activation of those verbs which allow more subcategorization or argument-structure possibilities. The amount of representational information for verbs affects sentence processing (Shapiro et al. 1987). Because agrammatic aphasics were sensitive to all argument structures of the verb tested, Shapiro Levin (1990) claim that the device that activates the verb and its structural properties operates normally during sentence comprehension in Broca's aphasics. The difficulties in understanding and producing complex structures (passive, relative clauses) thus arise from the dysfunction of the

postactivation processing which is responsible for the assignment of thematic roles to argument NPs.

In other experiments, slow lexical access to verbs was observed. Zurif et al. (1993), using a lexical priming probe, found that Broca's aphasics are sensitive to a prime-target relation which means that they are able to access the full representation of the verb's argument structure. At the same time, the patients showed a slower accessing rate than the normal control group which means that the lexical activation of verbs is temporally protracted.

Although a similar lexical representational base is used for the comprehension and production of verbs (as it is presumed by Thompson et al. (1997)), results of a processing probe do not necessarily coincide with the results of production tasks. Normal verb production cannot be predicted on the basis of data of on-line sentence processing experiments. Edwards draws attention to this claiming that "there is no way of knowing whether these [agrammatic] aphasic subjects could produce the verbs that they were processing, albeit slowly. Access to the verb's argument structures need not, presumably, guarantee ability to say the word" (2000, 193).

The representational complexity of verbs seems to be a crucial metric for "sentence processing/production complexity", but the structural complexity of the sentence into which the verb and its arguments are mapped is also a decisive factor in verb production. Sentence production might be influenced by a complex mixture of verb and syntactic variables (Thompson et al. 1997).

Jonkers pointed out that a larger amount of syntactic information carried by a verb affects sentence construction. However, "more syntactic information does not make a verb more difficult to retrieve, but it does make sentence processing more difficult" (2000, 122). His conclusion is based on results of an experiment in which he analysed the effect of the syntactic factor "transitivity" on verb retrieval. He found that transitive verbs are more difficult to produce in the context of the sentence than in isolation for his Dutch agrammatic aphasic subjects. All Broca's aphasic subjects produced transitive verbs in higher scores than intransitive verbs at the word level. This striking pattern disappeared at the sentence level. The transitivity effect was found only in one subgroup of the patients but these patients produced fewer verbs in sentence than in isolation. Another subgroup of the patients was better in verb retrieval at the sentence level but produced more intransitive verbs than transitive ones.

Jonkers claims that for both subgroups, processing of all the syntactic information that is necessary for sentence construction is often disturbed, due to syntactic problems. The syntactic deficit manifested differently, however.

In the first subgroup syntactic problems led to a problem in verb retrieval. Fewer verbs were produced, but when the patients retrieved the verb, they also produced the verb's object and subject arguments, that is, they tried to make complete sentences. In the second subgroup the patients built incomplete sentences producing object omission and fewer subject complements with both intransitive and transitive verbs. These Broca's aphasics "were able to construct a sentence frame, but they were unable to process a large amount of syntactic information in order to fill this sentence frame" (*op.cit.*, 121).

The influence of syntactic factors on verb production is analysed in many recent studies. Authors of these studies argue that, apart from lexical retrieval deficit, verb production difficulty arises from syntactic deficit, rather than from morphological deficit or a primary lexical activation problem. According to capacity models of sentence production, the difficulty with verbs on the sentence level can be explained as economy of effort effects or as adaptation to the restricted computational capacity for sentence structure building. Agrammatic aphasics might select verbs with less complex representation structure more successfully in their speech because, in this case, construction of a phrase marker and monitoring the mapping of arguments into the syntactic frame requires less computational load.

Haarmann and Kolk (1991) worked out a "timing hypothesis" to explain agrammatic sentence production and comprehension. They assume that slow activation or fast decay of phrase structure nodes disintegrates the processes that build various parts of the syntactic tree. According to Kolk's (1995) proposal syntactic slowdown, due to shortage of capacity, has an effect on the activation of lexical items. Grammatical sentences can only be produced if the integration of a syntactic slot (delivered by the grammatical algorithm) and the lexical filler is possible. The integration requires optimal synchrony between the lexical item and the syntactic slot, and it is jeopardised if the lexical item makes contact with the slot at a relatively late point in time. Timing deficit, i.e., the slowing down of the syntactic component, thus leads to verbal paraphasias and the omission/substitution of grammatical morphemes in the sentence production of Broca's aphasics. Kolk (1995; 1998) assumes that agrammatic aphasics adapt to the timing deficit with two types of strategies. The strategy of **simplification** leads to a reduced variety of grammatical forms, and preference for simple main clauses with little phrasal elaboration. The **restart** strategy increases the processing load, too, as the patients restart the computation process. As a consequence of the second activation it takes less time to bring a unit (lexical item or syntactic node) to the threshold.

Data concerning patterns of the production of finite verbs also support the hypothesis that problems with verb production can be explained on the basis of syntax. Some of these data can be regarded as a proof for the theory of unconscious adaptation to capacity overload. Agrammatic aphasics often substitute finite, fully inflected verbs for nonfinite -- infinitive, participle -- or incorrect verb forms (Saffran et al. 1980; Lapointe 1985; Saffran et al. 1989; Kolk Heeschen 1992). Dutch agrammatic aphasics produce less inflected verbs in their spontaneous speech than normal control subjects (Bastiaanse et al. 1996).

Bastiaanse-Jonkers (1998), Bastiaanse et al. (2000) found that the correct use of verb inflection and diversity of verbs in agrammatics' spontaneous speech shows a typical pattern. Two variables, the type-token ratio of verbs, ttr,[2] and the inflexion index[3] were compared. Those agrammatic speakers who were poor in verb inflection had an above average ttr. Another group of patients showed low ttr (little diversity in their verbs), but an above average result on the proportion of inflected verbs. "If individual patients do inflect their verbs, this is always at the cost of the diversity of the verbs they produced" (Bastiaanse et al. 2000, 177). The authors interpreted the data as a consequence of a "trade-off" effect: the patients produced finite clauses at the cost of lexical retrieval. According to their explanation, the problem with verb retrieval is the result of a syntactic disorder: the patients have difficulty producing finite clauses and inflected verbs.

To find the factor making the production of finite clauses and finite verbs more difficult than infinite ones, Bastiaanse and van Zonneveld (1998) investigated the relation between verb inflection and verb position. An analysis of the spontaneous speech samples of Dutch agrammatic aphasics showed that in the matrix clauses the nonfinite verbs produced by the patients were always in clause final position and the finite verbs in second position. In the embedded clauses (which occurred in very low proportion) the finite verbs also were in clause final position. On the basis of the results the authors suggested that agrammatic Broca's aphasics are sensitive to the relation between finiteness and

[2] The *ttr* score indicates the diversity of verbs in the spontaneous speech sample. The total number of verbs (=token) in the sample was counted, then the number of different verbs (the types) occurring in the sample was divided by the number of tokens, giving a ratio between 1.00 and 0.00. A high ratio implies great diversity, a low ratio means low diversity (low lexical content).

[3] The total number of finite verbs was divided by the total number of clauses containing a verb (+fin or −fin).

verb position, although the patients produce high number of nonfinite clauses. If they produce finite verbs, the verb moves to the Verb Second position; if the verb is not inflected for Agreement and Tense, the nonfinite verb remains in its base-generated (clause final) position. In a sentence completion test an interesting pattern was found: the patients performed significantly better in producing verb inflection if the inflected verb occurred in clause final position. If the finite verb had to be produced in V2 position in the matrix clause, the patients made significantly more inflectional errors. Bastiaanse and van Zonneveld concluded that "producing finite verbs that have been moved from their base generated position is difficult for the agrammatic aphasics" (*op.cit.*, 179). The verb inflection problem in production is not due to morphological disorder, but to the disturbance of verb movement.

Friedmann Grodzinsky (1997), investigating a Hebrew agrammatic subject's sentence production with the help of sentence completion and sentence repetition tasks, found that the inflection for tense is more impaired than inflection for agreement. They interpreted the data in the framework of the Minimalist Program (Chomsky 1992) and the split inflection theory (Pollock 1989). Friedmann and Grodzinsky explain the dissociation of agreement and tense morphemes by the impairment of the functional category T(ense). If the T node lacks feature specification, the checking mechanism cannot detect mismatches between the tense inflection of the verb and the intended tense (features specified in T). The authors put forward the proposal that an underspecified node cannot project any higher. According to this, the agrammatic syntactic tree is pruned from the defective Tense node and up (every node above T is inaccessible for the agrammatic speakers). It is called the Tree Pruning Hypothesis. The Agr node remains intact because it is lower in the phrase marker than T. The checking of agreement features of the verb therefore is possible, thus the agreement morphemes are used correctly by the patient. The hypothesis predicts that those verb forms that do not move to collect their inflection are better preserved in agrammatic speech, like the nonfinite forms of the verb (Friedmann 2000). Finite verbs have to move up in the tree in order to check their inflection. "Only verbs that do not need to raise higher than the pruning site are correctly produced" (*op.cit.*, 159).

The data summarised above indicate that the verb production difficulty in agrammatic speech cannot be explained only from one aspect.

3. The present experiment

In the present experiment we investigated the lexical retrieval of "complex predicates" and Verbal Modifier + Verb constructions in sentences with different structural complexities. The production pattern of complex predicates in neutral and non-neutral sentences was analysed in Hungarian agrammatic aphasic subjects. The question was whether the syntactic complexity of sentences had an effect on accessing complex predicates which contained verbal modifiers of different types, during sentence construction/production.

Units labelled as **complex predicates** consist of a base verb (V) and an attached preverbal element, a **verbal modifier** (VM) (Komlósy 1985; 1994). Verbal modifiers are heterogenous elements with respect to their syntactic categories and grammatical functions. Based on the analysis of Ackerman (1987); Komlósy (1985; 1994) and É. Kiss (1994), two main types of preverbal elements can be distinguished: preverbal prefixes and argumental constituents (Ackerman uses the term **preverb** for both). Prefixes are not arguments of the V, the argumental constituent type of VMs are θ-role bearing complements.

In prefix-verb constructions, the preverbal prefixes may contribute their original adverbial meaning to the semantic content of the complex predicate (e.g., *be-megy* 'go in', *át-megy* 'go across'), they may form a noncompositional idiomatic unit with the verb (e.g., *fel-dob* 'denounce' instead of the literal meaning 'throw up'), or they may have a perfectivizing function, denoting the perfectivity of the V (e.g., *meg-ver* 'beat up', *meg-ír* 'write up'). Argumental constituents (or argumental preverbs) are determinerless internal arguments of the base verb: direct object (e.g., *újság-ot olvas* 'newspaper-acc read = read a newspaper'), subject (e.g., *víz ment (a szemébe)* 'water-nom went (eye-his-into) = water got (into his eyes)'), locative complement (e.g., *mozi-ba megy* 'movies-into go = go to the movies'), predicative complement (e.g., *szőké-re fest* 'blond-to colour = dye blond', *úszni tanul* 'swim-inf learn = learn to swim'), translative adverb/resultative complement (e.g., *darabok-ra tör* 'pieces-onto break = break into pieces'), predicate adverbial (e.g., *rosszul van* 'badly is = feel ill'), predicate adjective (e.g., *beteg volt* 'ill was = was ill'), subject complement/predicate nominal (e.g., *katona* $\emptyset_{\text{copula}}$ 'be a soldier = serve in the army'), etc. (See also Kenesei et al. 1998). These heterogenous elements are supposed to belong to a common type since they form a semantic unit with the verb and they display similar distributional properties and syntactic behaviour.

Verbal modifiers — as the term indicates — modify, change and specify the meaning of simple verbs. Some of them have a role in expressing **Aktionsart**

(resultativity, progressivity, instantaneity, accomplishment), other VMs serve as aspectual markers in the sentence altering the aspectual meaning of the simple verb (Kiefer 1994). Semantically, the verbal modifier and the verb are inseparable, they form a single unit, the VM+V verbal construction functions as the semantic predicate of the sentence. Prefixed verbs and other complex predicates serve as input to derivational processes (e.g., *ki-fest* 'out paint = paint' → *kifestés*$_{N}$, *piac-ra dob* 'market-to throw = put on the market' → *piacra dobás*$_{N}$, *beteggé tesz* 'ill-trans make = make ill' → *beteggé tett*$_{partic.}$). Prefixes occur only with categorial verbs or in deverbal derivations (Ackerman 1995). The properties listed above refer to the lexical origin of complex predicates. Komlósy (1985) and Ackerman (1987) argued that prefixed verbs are grammatical words constructed in the lexicon. VM-V compositions resemble morphological entities — derived or compound words —, but "their status as morphological objects, i.e., as phonologically integrated and syntactically atomic, is questionable, since their pieces are separable in syntax" (Ackerman 1995, 291).

In several recent studies an incorporation analysis is proposed to account for those data, which suggests that compositions consisting of a separable verbal modifier and a verbal stem are semantic and lexical units (Ackerman 1987; 1995, Komlósy 1994; É. Kiss 1994). The analysis implies that VMs are semantically incorporated X^0 constituents. The VM incorporates into the V on the semantic and lexical level, forming a complex predicate. Incorporation of VMs is governed by lexical restrictions. According to the incorporation analysis the structure of a complex predicate is as follows:

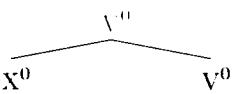

Fig. 1
The structure of a complex predicate

The syntactic behaviour of the VMs presumably arises from the semantic relationship of the VM to the V. "The VM functions not as an adjunct or a complement to the V, but rather as a modifier of its content" (Komlósy 1994, 98). Incorporated nominals function semantically not as an argument but as part of the complex predicate, although articleless argumental preverbs are subcategorized by the verb and have a θ-role and case. Arguments of the verb can freely move into different syntactic positions, but VMs cannot. Prefixes

and argumental preverbs cannot serve as a topic, because being X^0 constituents with a vacuous XP projection, they are non-referential (É. Kiss 1994). Bare nominals do not denote an entity or a group of entities, but they merely restrict the meaning of the V (*op.cit.*, 52). VMs cannot undergo quantifier raising because they do not assign a quantifier feature. Complex predicates, just as other constituents in the relevant position of the sentence, can be focalized. In this case the verbal modifier occupying the immediate preverbal position carries the focus stress. (It depends on the context whether the VM+V functions as an emphasized constituent or the VM is interpreted as being focussed.) VMs can undergo Left Dislocation, except verbal prefixes with no semantic content.

Verbal modifiers behave syntactically in a parallel fashion. In neutral sentences with level prosody, the canonical position of the verbal modifier is the position immediately preceding the verb (Kálmán 1985a). The VM is stressed, the V is unstressed, they form a constituent at the phonological level. According to Pléh et al. (1989, 115), the stress pattern of VM+V in the neutral sentence can be easily described if the complex predicate is regarded as the predicate of the sentence rather than the V: the first non-clitic syllable of each constituent carries the stress. In non-neutral sentences containing a focussed constituent, the verbal modifier gets into postverbal position, it usually immediately follows the finite verb. The focussed XP has an eradicating stress, therefore the constituents to the right of the focus-phrase lose their stresses: both the verb and the verbal modifier remain unstressed (Kálmán 1985b). In sentences containing a universal quantifier phrase the verbal modifier is in a position immediately preceding the verb.

In order to account for word-order and intonational patterns of the verbal modifier and the verb in neutral and non-neutral sentences, different hypotheses have been formulated. The proposed syntactic analysis has to be able to account for structures in which the VM+V is inseparable, suggesting that the verbal modifier and the verb form a single constituent, and also for those in which the VM is separated from the verb. It is an open question what the base-generated position of the VM and V is in the underlying structure.

Kenesei's (1989) analysis implies that the VM forms one syntactic construction with the verb, the VM is part of the verb's syntactic category. He proposes that verbs (simple and complex predicates) are generated by the following rule in Hungarian:

$V' \rightarrow (VM)\ V^0$

where VM can be any X^i category (i = any integer between *n* and 0, according to the X-bar convention) and VM can be left out if the predicate of the sentence is a simple verb

É. Kiss (1987; 1994) assumes that the VP consists of a flat V-initial V′ component. Prefixes and bare nominals are base-generated postverbally as sisters to the V, as other arguments of the verb. Prefixes are analysed as Adv, their category is $[_{AdvP}\ [Adv]\ ]$, bare nominals are analysed as NPs.

For the present experiment three types of VM were selected. The target sentences involved prefixed verbs and complex predicates containing a predicative complement or unquantified common nouns (bare nouns). The syntactic complexity of the target sentences was varied, "neutral" and "non-neutral" sentences were used to investigate the effect of sentence types on the lexical selection of complex predicates.

Neutral sentences contain topicalized argument(s), but not operators. The topic serves as a logical or notional subject, the VP serves as the logical predicate of the sentence (É. Kiss 1987). In É. Kiss's (1987; 1995) model all the arguments of the verb are generated VP internally in an arbitrary order, all arguments are sisters of the V. VMs are also base-generated postverbally. Topicalization is a transformation rule which preposes an argument from the [XP, V′] position into the [Spec, TenseP] (=Topic) position. According to the proposal by É. Kiss, the VM V order in neutral sentences is derived by the movement of the incorporated constituent (VM) into the specVP position.

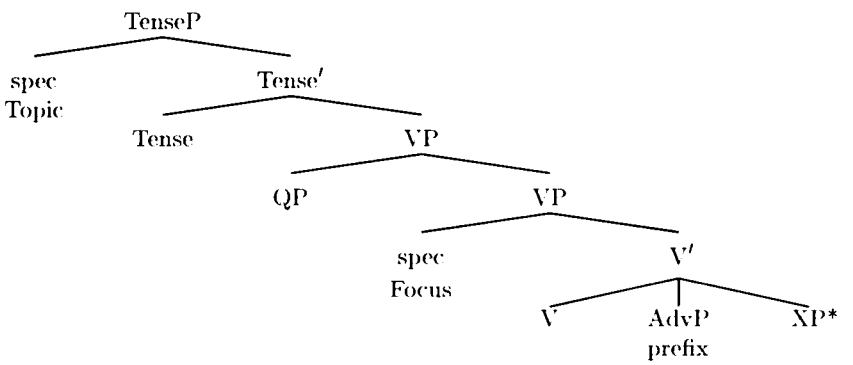

Fig. 2
Hungarian sentence structure according to É. Kiss (1995)

The specVP position has a dual function in this model, it serves as the unmarked surface position of the verbal modifier, and it is also reserved for the focussed constituent. É. Kiss (1998) recently modified this proposal, assigning different structural positions to the VM and focus (Figure 3). According to this, VM is a position immediately preceding the verb which forms a V′ constituent with the Verb. É. Kiss claims that verbal modifiers specify a [+verbal modifier] feature in their lexical representation, and this forces them to move from their base-generated postverbal position into the VM position in the neutral sentences. (Focussed constituents fill the specFP position. The focus (FP) of the sentence consists of the focussed XP and the VP.)

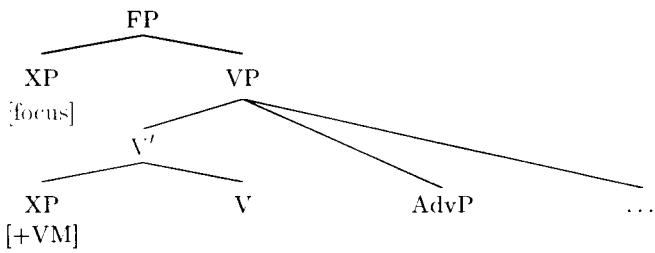

Fig. 3
Modified sentence structure according to É. Kiss (1998)

Brody (1990; 1995) suggests that the VM+V complex is base-generated under the V′. He refers to the VM+V as V+, which dominates the Verb and the incorporated VM (Figure 4).

In **non-neutral** sentences which contain a focus- or a wh-operator, the operator is preposed into the Focus position by a transformation called Focussing. The focussed element must be left-adjacent to the verb. In sentences with focus the VM is separated from the verb, it does not precede the verb but follows it. According to É. Kiss (1995), the VM and the verb remain in their base-generated positions, and only the focussed constituent moves into the Focus position: specVP (or specFP in her later model).

In Brody's (1990; 1995) model a separate functional projection, FocusP takes part in Focussing. SpecFP hosts the focussed constituent (focus- and wh-phrase), and the finite verb moves to the head (F^0) of FP in order to check the focus feature of the focussed phrase. If the sentence contains a complex predicate, the bare V, raising to F, leaves its verbal modifier behind. The VM remains in a functional head lower than F.

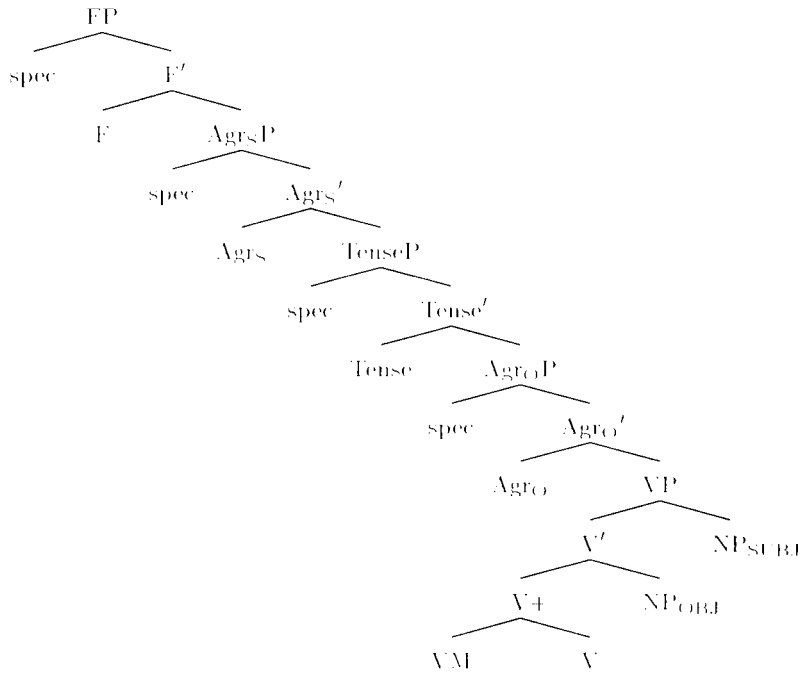

Fig. 4
Hungarian sentence structure according to Brody (1995)

Positive universal quantifiers bearing [+q, +u] features in the lexicon undergo Quantifier Raising (É. Kiss 1994). This operation does not trigger verb movement to F. The universal quantifier phrase occupies QP position. In É. Kiss's model the QP is left-adjoined to VP, in Brody's model it is adjoined to the FP.

3.1. The test material

The test material contained simple neutral and non-neutral sentences. Neutral sentences involved a topicalized element, while non-neutral sentences contained operators: focus, wh-phrase, negation phrase, and universal quantifier phrase. The sentence types we used were as follows:

A. neutral sentences containing a topic (TopP)

B. wh-questions (WhP)

C. sentences containing a focus-phrase: *csak*-phrase ('only'-phrase) (FP)
D. sentences containing a negation phrase (NegP), sentential or predicate negation
E. sentences containing a universal quantifier (QP)
F. neutral sentences modified by a sentential adverb (AdvP)

The complete test material contained 120 sentences. There were 20 target sentences in each sentence type. The non-neutral sentences were alterations of the neutral ones. For example:

Type A. neutral sentence (TopP)

A színésznő-∅ vörös-re fest-ett-e a haj-á-t.
the actress-nom red-onto paint-past-3sg/def the hair-her-acc
'The actress painted her hair red.'

Type B. wh-question (WhP)

Ki festette vörösre a haját?
who-nom painted red-onto the hair-her-acc
'Who painted her hair red?'

Type C. focussed sentence (FP)

Csakis a színésznő festette vörösre a haját.
only the actress-nom painted red-onto the hair-her-acc
'Only the actress painted her hair red.'

Type D. Negation (NegP)

Nem a színésznő festette vörösre a haját.
not the actress-nom painted red-onto the hair-her-acc
'It was not the actress that painted her hair red.'

Type E. universal quantifier (QP)

Minden színésznő vörösre festette a haját.
every actress-nom red-onto painted the hair-her-acc
'Every actress painted her hair red.'

Type F. Neutral sentence modified by sentential adverb

Sajnos a színésznő vörösre festette a haját.
unfortunately the actress-nom red-onto painted the hair-her-acc
'Unfortunately the actress painted her hair red.'

Each sentence contained a complex predicate. The target complex predicates were two-place verbs, they assigned subject and object/locative/dative arguments. Three types of verbal modifiers (VM) were used:

(a) **Prefix,** e.g., *kirabol* 'rob'

KI + RABOL
out rob-3sg

targets: *szét-vág* 'cut into pieces', *meg-szökik* 'escape', *észre-vesz* 'notice', *le-nyel* 'swallow', *vissza-hoz* 'bring back', *ki-rabol* 'rob', *eltéved* 'lose one's way'

(b) **Predicative complement,** e.g., *laposra ver* 'beat flat'

LAPOS-RA + VER
flat-to beat-3sg

targets: *halálra gázol* 'crush to death', *kövérre hizlal* 'fatten up', *puhára főz* 'cook soft', *laposra ver* 'beat hollow', *vörösre fest* 'paint red', *kopaszra nyír* 'cut bald=give a close crop', *szénné éget* 'burn to cinders'

(c) **Unquantified common noun (bare noun),** e.g., *csalódást okoz* 'cause disappointment'

CSALÓDÁS-T + OKOZ
disappointment-acc cause-3sg

targets: *pofon vág* 'slap in the face', *hadat üzen* 'declare war', *vízbe fojt* 'drown', *kezet fog* 'shake hands', *csalódást okoz* 'cause disappointment', *falhoz állít* 'stand against the wall'

3.2. Method

3.2.1. Subjects

For the purpose of the experiment, two nonfluent Broca's aphasic subjects were selected. Both aphasic patients showed typical agrammatic phenomena in spontaneous speech: telegraphic style, omission of closed class elements (case suffixes, determiners), low proportion of verbs, reduced phrase length, lack of complex sentences, tendency to produce simple SV, VO structures, isolated minimal phrases (NP, AdvP) and words (mostly nouns). Both patients displayed severe speech initiation difficulty and moderate anomia.

N.Zs., a 26 year-old female right-handed shop-assistant, was investigated 5 years post-onset.

Sz.V., a 42 year-old male right-handed, engineer, was investigated 4 months post-onset.

The aphasia diagnosis was made by the Hungarian variant of the Western Aphasia Battery (Osman-Sági 1991). N.Zs.'s WAB AQ was 71,8; Sz.V.'s WAB AQ was 64,2. The CT-scan of N.Zs. (performed 5 years post-onset) showed a left hypodense lesion (in the territory of the middle cerebral artery), involving the

insula and basal ganglia. The CT-scan of Sz.V. revealed a large hypodense area in the left hemisphere, in the territory of the middle cerebral artery. The lesion involved the frontal lobe, the insula, the temporal and the parietal lobe.

3.2.2. Procedure

As elicitation methods we used Sentence Anagram Test and Sentence Repetition Test. In both tasks the same sentence types and target sentences were used.

The **Anagram test** is a widespread method to investigate aphasic patients' sensitivity to word-order rules and the syntactic position of the sentence constituents, e.g., auxiliary verb, main verb, argument NPs, adverbs, operators. The subjects are instructed to produce a sentence by rearranging written cards which represent the sentential constituents. The argument DPs, the verb and the verbal modifier were presented to the patients on separate cards in a random order, arranged vertically, e.g.,

RABOLTA	rob-past-3sg/def
A FÉRFI	the man-nom
KI	out
A BANKOT	the bank-acc

The constituents were supplied with proper inflexional endings: the verb had a past-3sg suffix, the argument DPs and the *b, c* type of verbal modifiers had the relevant case suffixes. Sentences containing operators were elicited by using the story completion method, which introduced the special context needed for the production of these types of sentences. The task was administered without time limits.

The **Sentence repetition test** requires immediate recall of sentences. The subjects were asked to repeat the target sentences presented in random order.

Correct verbatim repetition of a sentence depends on the patient's ability to analyse the syntactic structure of the sentence. The grammatical function of the arguments can be assigned by processing the inflexional morphology of the argument NPs. The case-frame, argument-structure and subcategorization information of the verb has also to be activated. Sentential adverbs, topicalized constituents and operators (focus-phrase, wh-phrase, negation-phrase and universal quantifiers) can be identified via their lexically represented features, their stress features and their position in the phrase marker. The relative order of the verb and the verbal modifier also serves as a cue in the processing of neutral and non-neutral sentences. All the information on syntactic and lexical

features of the arguments and the predicate has to be preserved for the correct reproduction of the sentence with correct morphology. We assumed that our agrammatic aphasic subjects strive to use active syntactic structure building operations during the reproduction of sentences although other strategies can also be used in sentence repetition, e.g., retrieval of words of the sentence (only) from the phonological memory.

N.Zs. was tested with both test materials (anagram and sentence repetition), Sz.V. only with the sentence repetition test.

4. Results

4.1. Effect of the type of verbal modifier

We first analysed the effect of the lexical representational complexity of complex predicates on sentence production. The distribution of grammatically well-formed sentences produced by the subjects were compared in the different verbal modifier groups. The results from the anagram and sentence repetition tasks are shown in Tables 1, 2 and 3 on the next page). In the statistical analysis Fisher's exact test was used.

In the anagram task there is no significant difference in the distributions of correctly produced sentences in the different verbal modifier groups in the performance of N.Zs. In the sentence repetition test, however, the frequency of the grammatically well-formed sentences is significantly higher in the PREFIX group than in the predicative complement ($p = .00001$) and in the bare noun group ($p = .00002$). The same effect is found in the production pattern of Sz.V., although Sz.V. produced complete, grammatically well-formed clauses in extremely low proportion in the sentence repetition test.

The results show that agrammatic patients are significantly better in producing sentences involving prefixed verbs, compared to those involving other types of verbal modifiers. However, this difference was found only in the sentence repetition task. The effect of verbal modifier type does not appear in the anagram task. In this test, the proportion of the correctly constructed sentences is much higher in every verbal modifier group than in the sentence repetition task.

Why do agrammatic patients have more difficulty in producing sentences involving "predicate complement" or "determinerless case suffixed N" type verbal modifiers in the sentence repetition tasks? To answer this question we made an error analysis. The performance of N.Zs. was analysed in detail because she

was tested with both tasks. We focussed on the complex predicates in the patient's answers. The distributions of correct and incorrect uses of verbs were compared in the different types of syntactic constructions (A F types of sentences).

Table 1
Distribution of grammatically well-formed and ill-formed sentences in the different verbal modifier groups. The **anagram** test of N.Zs.

type of verbal modifier	**well-formed**			**ill-formed**	
	n=	%	p=	n=	%
a. prefix	37	0.88		5	0.12
b. predicative complement	33	0.79	0.38	9	0.21
c. bare noun	27	0.75	0.15	9	0.25

Table 2
Distribution of grammatically well-formed and ill-formed sentences in the different verbal modifier groups. The **sentence repetition** test of N.Zs.

type of verbal modifier	**well-formed**			**ill-formed**	
	n=	%	p=	n=	%
a. prefix	26	0.62		16	0.38
b. predicative complement	6	0.14	0.00001*	36	0.86
c. bare noun	5	0.14	0.00002*	31	0.86

Table 3
Distribution of grammatically well-formed and ill-formed sentences in the different verbal modifier groups. The **sentence repetition** test of Sz.V.

type of verbal modifier	**well-formed**			**ill-formed**	
	n=	%	p=	n=	%
a. prefix	5	0.12		37	0.88
b. predicative complement	0	0.0	0.055	42	1.00
c. bare noun	0	0.0	0.058	36	1.00
b+c	0	0.0	0.0045*	78	1.00

Note: number of target sentences containing a prefix = 42, a predicate complement = 42, a bare noun = 36, n = number of answers, % = percentage value, $*$ = significant ($p < .01$)

4.2. Types of errors

4.2.1. Anagram task

In the anagram task the rate of ill-formed sentences is relatively low, 19% (23/120). Ill-formed sentences occur only in type B E non-neutral sentences containing operators.

N.Zs. produces type A and F, i.e., neutral, sentences without error. She constructs SV $DP_{OBJ,DAT,LOC}$ sentences preferring the topicalization of the subject NP. She places the sentential adverb and the verbal modifier into the appropriate syntactic position, adverbs are placed before or after the topic, verbal modifiers are placed into the immediate preverbal position. This proves the patient's sensitivity to the case feature of arguments and the syntactic and semantic features of base verb, VM and adverbial elements. She constructs complex predicates combining the VM with the base V. The VM and the V are not separated, other constituents are never inserted between them. The verbal modifier never occupies the topic or postverbal position in these groups of sentences.

For non-neutral sentences the error rate is 39% (23/80) which means that the ratio of correct answers is 61% in these structures. The patient is able to process the FocusP, WhP, NegP and universal quantifier phrases which carry logical functions. Based on their lexically selected feature (+wh feature of the question word, +focus feature of the *only*-phrase, +neg feature of the negative marker, +q feature of *every*), she preposes the operator and quantifier phrases into sentence initial positions. This gives evidence for N.Zs.'s sensitivity to scope positions and scope taking elements. In Hungarian operators c-command and precede their scope, operator movement takes place at S-structure (É. Kiss 1994).

One type of errors results from a selection disorder of the universal quantifier's semantic feature. The proportion of this error type is 35% (8/23):

> quantifier expressions sometimes occupy inappropriate positions in the sentences constructed by the patient: they are inserted into TopicP instead of QP, or they remain in their base-generated position under the V′.
>
> ill-formed sentences with QP V VM order are produced. Quantifier raising does not trigger verb raising to F, the quantified DP has to be followed by the complex predicate in type E sentences. Based on the error we can presume that our subject sometimes treats universal quantifier phrases as a focus phrase: the quantified DP is placed into a scope domain, however not into the QP but FP position.

Another type of error is found in sentences containing a focussed constituent (B D). The error rate is 61% (14/23):

> the focussed constituents are adjacent to the complex predicate and not to the base verb.

A syntactic account for this phenomenon is proposed here. Because the agrammatic subject always used the verbal modifier in preverbal position in the neutral sentences, she must be aware of the information related to the combinatorial properties of the verbal modifiers, and must be able to handle the morphological and morpholexical operations that combine the VM with the root verb. We assume that the complex predicates are base-generated in preverbal position, by the phrase structure rule: $V' \rightarrow (VM)V^0$, as it is suggested by Kenesei (1989), and the good performance of the patient in the neutral sentences can be supported by her retained ability to handle the syntactic operations creating the V' syntactic node. We suppose that the VM V order errors produced by the patient in the non-neutral sentences containing focussed-, wh- and negated constituents can be explained on the basis of Brody's (1995) theory. Brody suggests that wh-preposing and focussing triggers verb movement to F head. According to his model, focussed- and wh-constituents move to the specifier position of FocusP in order to license the +f and +wh features of these phrases. The features are checked by the tensed verb which separates from the verbal modifier and moves to F^0 after checking its tense feature. By interpreting the VM V order errors in this model, we can presume that in certain cases the agrammatic aphasic patient cannot handle this syntactic operation of **verb movement to F**.

Here we do not discuss possible – capacity-based or grammar-based – explanations for this phenomenon. What is important here is that semantic representation of the target complex predicates is **accessible** for our agrammatic subject in the anagram task. The problem with verb movement to F in sentences containing focus indicates a syntactic deficit.

4.2.2. Sentence repetition task

Both agrammatic aphasic subjects produced the same types of errors in the sentence repetition test. The proportion of main error types in percentage value:

	N.Zs.	Sz.V.
a. Error in the lexical selection of complex predicate	**0.40**	**0.16**
(omission/substitution of verbal modifier	**0.26**	**0.08**
base verb	**0.08**	**0.03**
complex verb	**0.06**	**0.05)**
b. AGReement error	0.25	0.27
c. Argument DP substitution	0.10	0.18
d. Determiner omission	0.05	0.15
e. Argument DP deletion	0.05	0.09
f. V-VM/VM-V inversion error	0.07	0.02
g. Other	0.08	0.13

Agreement errors such as verb inflexion and case assignment errors (b), determiner omission (d), substitution/omission of argument DP (c, e), incorrect order of verb and verbal modifier (f) and fragmented sentences (g) occur, which resulted in grammatically ill-formed sentences.

In the case of N.Zs., 40% of the errors are related to the lexical selection of complex predicates (a), for Sz.V., this rate is only 16%. The selectional disorder of complex predicates leads to agrammatic sentences, but in certain cases the substitution/omission of target VM, or the substitution of target complex predicate does not result in grammatically ill-formed sentences, although the meaning of the target sentence has changed. The deletion of sentential AdvP, lexical substitution of an argument noun, or omission of an optional argument does not lead to agrammatic sentences, although these sentences are alterations of the target. Proportions of the verbatim repetition and alteration (ill-formed and not agrammatic) of the target sentences in the different types of clauses (A–F) are shown in Table 4, where the performance of N.Zs. is analysed.

Table 4

Proportion of "verbatim repetition" and "alteration" of target sentences in type A–F clauses. Production pattern of N.Zs. (percentage values are enclosed in parentheses)

	A. neutral	B. WhP	C. FocusP	D. NegP	E. QP	F. AdvP
target S (verbatim)	0.65 (13)	0.35 (7)	0.20 (4)	0.15 (3)	0.30 (6)	0.20 (4)
alteration of target S	0.35 (7)	0.65 (13)	0.80 (16)	0.85 (17)	0.70 (14)	0.80 (16)
ill-formed: (b g)	4	2	7	5	6	5
(a g)	1	4	2	3	4	3
(a)	0	2	3	2	1	1
not agrammatic: (a)	2	5	4	7	1	2
(c)					2	
AdvP deletion: (g)						4
(e)						1

Table 5
Proportion of verbs and complex predicates

	A	B	C	D	E	F
verb (total)	20 (1.00)	20 (1.00)	18 (0.90)	19 (0.95)	20 (1.00)	19 (0.95)
verbless S fragment	–	–	2 (0.10)			1 (0.05)
base V omission	–	–	–	1 (0.05)	–	–
complex predicate	20 (1.00)	14 (0.70)	15 (0.75)	17 (0.85)	17 (0.85)	18 (0.90)

The proportion of well-formed target sentences is lower in the sentence repetition task than in the anagram task: 31% vs. 81%. Frequency of the grammatically well-formed target sentences is significantly higher in type A clauses than in type B F ($p = .0012$; according to Fisher's exact test, where $p < .01$). In the next section we present the descriptive analysis of verb production. Table 5 shows the distribution of verbs and complex predicates used by N.Zs.

When reproducing the target sentences N.Zs. produces verbs in high proportion: 97% (verb total). Verbless sentence fragments (e.g., *Valószínűleg a rabló...* 'Most likely the robber...') or base verb omission (e.g., *Nem a gazda kövérre a libát* 'Not the farmer the goose-acc fat') hardly occur: 3%. She builds the verbs into clauses, which are well-formed or agrammatic, as Table 4 presents. Isolated verbs never occur in the patient's answers. 84% of the verbs produced was a complex predicate. One part of these complex predicates, however, is not the target complex predicate but a substituted one.

The empirical data show that the lexical selection of complex predicates (VM+V) is impaired in our agrammatic subject. The following error types were observed in the use of complex predicates:

verbal modifier omission

(1) Ki hizlalta a libát?
who-nom fattened the goose-acc
target: *hizlalta kövérre* 'made fat'

(2) Csak a férfit állította a katona.
only the man-acc placed the solider-nom
target: *állította falhoz* 'made him stand next to the wall'

verbal modifier substitution

(3) Csak a bokszoló vágta *ki* a bírót.
only the boxer-nom threw out the umpire-acc
target: *vágta pofon* 'slapped in the face'

(4) Kivel fogott *meg* a pilóta?
who-inst took px the pilot-nom
target: *fogott kezet* 'shook hand'

substitution of base verb (V)

(5) A katona falhoz *vágta* a férfit
the solider-nom wall-to threw the man-acc
target: *falhoz állította* 'made him stand next to the wall'

(6) Nem a húst *égett* meg a nagymama.
not the meat-acc burnt px the grandmother-nom
target: *égette meg* 'burnt' (causative → unaccusative)

substitution: simple verb for complex predicate

(7) Minden macskát *fojtogatta* a férfiT.
every cat-acc strangled the man-acc
target: *vízbe fojtott* 'drowned' (causative → frequentative)

(8) Csakis a gazda *hízott* a libát.
only the farmer-nom got fat the goose-acc
target: *hizlalta kövérre* 'made fat' (causative → unaccusative)

substitution: other complex predicate for complex predicate

(9) Nem a bokszoló *verte meg* a bírót.
not the boxer-nom beat px the umpire-acc
target: *vágta pofon* 'slapped on the face'

The rates of errors belonging to different types are shown in Table 6. The data show that the vulnerable part of the complex predicate is the VM. The agrammatic patient produced mostly VM errors, the number of base V errors is much lower (32 vs. 9). Base verb substitution occurred when the complex predicate was a causative verb. In this case the patient replaced the causative base V by an unaccusative verb (see examples (6) and (8)).

Table 6
Number of substitution and omission errors with complex predicates

	A	B	C	D	E	F
VM omission		6 (0.30)	2 (0.10)	2 (0.10)	2 (0.10)	
VM substitution		5 (0.25)	5 (0.25)	7 (0.35)	1 (0.05)	2 (0.10)
base V substitution	3 (0.15)		1 (0.05)	1 (0.05)	1 (0.05)	2 (0.10)
base V omission				1 (0.05)		
simple V for complex predicate			1 (0.05)		1 (0.05)	1 (0.05)
complex for complex				2 (0.10)	1 (0.05)	1 (0.05)

Table 7
Proportion of complex predicate errors and verbal modifier errors in the different sentence types (%)

	A	B	C	D	E	F
complex predicate errors (total)	0.15	0.55	0.45	0.65	0.30	0.30
VM errors (total)	0	0.55	0.35	0.45	0.15	0.10

Comparing the rates of errors produced with complex predicates and verbal modifiers in the different types of sentences, an interesting pattern emerges, as shown in Table 7.

The proportion of complex predicate errors is low in type A neutral sentences, compared to the B F types. The number of substituted complex predicates increases if the sentence contains an operator or it is padded by a sentential adverb. The structural complexity of sentences has an effect on the lexical selection of the complex predicate.

The distribution of verbal modifier errors in the different syntactic constructions shows a typical pattern. The error rate is much lower in type A, E and F sentences than in those of types B, C and D. In the first group the proportion of verbal modifier errors is only 8% in contrast with type B, C and D sentences, in which the rate of VM errors is 45%. Our patient is much better in retrieving the target verbal modifiers in those sentences in which the verbal modifier is in preverbal position: in the neutral SV Complement sentences (there is no verbal modifier error at all) and in sentences containing a quantified DP or an adverbial phrase.

When interpreting the production pattern we use Brody's model (1995) as a theoretical framework. According to this theory, in sentence constructions

containing a focus (focus-phrase, wh-phrase and negated constituent), the VM must be in postverbal position, because the V part of the complex predicate moves to the Focus head. It seems on the basis of the data that the lexical access of the target verbal modifier became more difficult for the agrammatic subject when producing sentences required this operation. The finding suggests that the lexical retrieval of the verbal modifier correlates with a syntactic operation: verb movement to F. The operation is achieved at the cost of the omission of the verbal modifier or deletion of certain lexical features of the target VM. When the verb movement to F failed in constructions involving focus (error rate is 10% within the B D group), that is, the patient produced VM V order instead of V VM, verbal modifier errors never occurred, the target complex predicate was accessed.

There is another factor that has to be considered. The analysis of VM errors indicates that the successful retrieval of the verbal modifier depends on the lexical representational complexity of the complex predicate.

SUBSTITUTION		OMISSION	
prefix for bare noun:	9	bare noun	4
prefix for predicative complement:	9	predicative complement:	6
bare noun for bare noun:	1		
prefix for prefix:	1	prefix:	1

The number of verbal modifier omissions and substitutions is much higher in the predicative complement and bare noun type of verbal modifier groups. 91% of the omitted VMs and 90% of the substituted VM belongs to these groups. In most cases, the target VM was replaced with the prefix *meg*, which is purely perfective. Prefixes are never replaced by other types of VM, prefix omission is very rare. The data show that prefixes are easier to retrieve than other types of verbal modifiers for the agrammatic subject. Prefixed verbs are less vulnerable.

5. Discussion

In the present study we investigated an agrammatic aphasic subject's (N.Zs.) ability to produce complex predicates, VM+V, in sentence context. The influence of the semantic type of verbal modifiers (**prefixal preverbs** and **argumental preverbs** were used as target), and the influence of the type of the target sentences (**neutral** and **non-neutral sentences** were used as target) on the lexical retrieval of complex predicates were examined. The target sentences were

elicited by sentence anagram and sentence repetition tasks. Production patterns of complex predicates in the different types of sentences were analysed: we compared the distribution of complex predicates and errors which occurred during their lexical selection.

The performance of N.Zs. is task specific, which can be explained by the fact that the computational load is different in the two tasks: verbatim repetition of sentences demands greater capacity resources than the anagram task. Reconstructing a sentence verbatim requires that the subject keeps in the memory all the semantic, syntactic and phonological information of the sentential constituents processed during the comprehension of the target sentence. In the anagram task this information can be easily found out from the written cards representing the constituents.

In the **anagram test** N.Zs. handles the VM as an incorporated constituent (part of a complex predicate) when constructing neutral sentences, which indicates that she is sensitive to the [+verbal modifier] semantic feature of the VM. She is always able to make the distinction between the overt arguments and the modifier element selected by the verb, the syntactic realisation of prefixal and argumental preverbs is always correct, they sit in VM position.

When constructing non-neutral sentences the agrammatic subject produces a typical error. In sentences containing a wh-, neg- or focus operator, the patient fills out the operator positions correctly: she places the wh-, focus- and negative phrases into sentence initial position. The focussed constituent, however, is followed by the complex predicate and not by the bare V. This results in agrammatic sentences because the relevant features of the operators cannot be checked if the finite V is not adjacent to the focussed constituent. We explained this phenomenon by a dysfunction in carrying out a syntactic operation, verb-movement to Focus head.

The data suggest that the patient was able to completely activate the lexico-semantic representation of the complex predicate in the anagram task, the production of agrammatic sentences with focussed constructions arises from a syntactic deficit.

In the **sentence repetition** task, erroneously produced complex predicates occur. In neutral sentences, the lexical retrieval of target complex predicates is almost intact, verbal modifier errors, omission or substitution of VM, are not found. When repeating non-neutral sentences containing operators and quantified DPs and neutral sentences padded by an adverb, the agrammatic patient often omits or replaces the verbal modifiers by others. The subject shows a tendency to replace the argumental preverbs (predicative complement and

bare noun) with prefixes that function as a perfectivity marker in the sentence. When she uses a prefix instead of the other type of verbal modifiers, only the syntactically relevant [+verbal modifier] and [+perfective] features of the target VM are preserved in the working memory, the other lexico-semantic features of the VM are neglected. Substitution or omission of VMs leads to grammatically ill-formed sentences in most cases, but by using the "VM-replacement strategy" the agrammatic subject could produce grammatically well-formed non-neutral sentences, by altering the target.

Substitution for prefixes can be regarded as an adaptation strategy suitable to decrease the processing overload. The agrammatic patient adapts herself to the limited capacity of the sentence production system (slow activation of syntactic and lexical information, and limited memory time), keeping in the memory only those syntactic features without which the syntactic representation cannot be constructed. This information remains available at the cost of "deleting" those lexico-semantic and phonological features of the VM which are not necessarily involved in syntactic structure building.

The patterns of verbal modifier production indicates that complex predicates which involve incorporated argumental preverbs are more difficult to retrieve for the agrammatic subject than complex predicates involving incorporated prefixal preverbs. Incorporated nominals are inner arguments of the base V, prefixes are not arguments. The lexical retrieval of complex predicate with a lexically bound inner argument in its semantic representation seems to demand greater cognitive resources than the retrieval of prefixed verbs. Therefore, prefixed verbs are better preserved during sentence repetition. If the lexical retrieval of complex predicates in sentence context is disturbed, the most vulnerable part of the VM+V unit is the verbal modifier. Lexical substitution of the base verb occurred in lower proportion than omission/substitution of the verbal modifier.

Syntactic factors also have a role in the lexical selection of complex predicates. The syntactic complexity of the sentence influences the lexical access to complex predicates: the number of VM errors increases if the sentence contains operators or sentential adverbs. In non-neutral sentences containing a focus-, wh-phrase or negated constituent, the proportion of verbal modifier omission/substitution is significantly higher compared to sentences not involving focussed constituents. The difficulty with verbal modifier selection becomes a striking symptom when verb movement to the F(ocus) head is required to construct the syntactic representation of the sentence. To explain this phenomenon a capacity-based account can be formulated. If the resource capacity is limited within the impaired production system there is a trade-off between the lexical

retrieval of complex predicates and the use of the syntactic operation of verb movement to F. The operation is achieved at the cost of the lexical activation operation of the complex predicate: the meaning of the complex predicate is activated incompletely, consequently verbal modifier omission or substitution occurs. If the mechanisms which activate the complex predicate operate normally, verb movement to F fails.

This does not mean at the same time that the patient cannot completely activate the information represented in the lexical entry of the complex predicate. Since in the anagram task N.Zs. proved to be very sensitive to the semantic features of the complex predicates and because the verbal modifiers were always accessible in neutral sentences, the selection problem of VMs cannot be explained by a lexical account, VM errors are due to a syntactic deficit.

6. Conclusion

The results presented in this study indicate that the production of complex predicates (VM+V) is influenced by two factors: the syntactic complexity of the sentence and the lexical representational complexity of the VM+V construction equally have an effect on the lexical retrieval of complex predicates. The data provide evidence that the production of complex predicates is strongly related to the Broca's aphasics' ability to construct sentence structure. The lexical selection problem with verbal modifiers observed during sentence production cannot be explained only by the disorder of lexical access to the complex predicate, VM errors are due to a syntactic deficit.

The agrammatic subject was able to activate all lexico-semantic features from the lexical entry of the complex predicates in the anagram task (which means less computational load), and in the verbatim repetition of SV–O/Dat/Loc neutral sentences. The lexical retrieval of complex predicates is disturbed when recalling non-neutral sentences and when sentences are modified by an adverbial phrase. Mostly verbal modifier omissions or substitutions occurred, which suggest that the vulnerable part of the complex predicate is the VM part. It can be presumed that the lexical retrieval of verbal modifiers correlates with a syntactic operation: verb movement to F. The operation is achieved at the cost of the omission of the verbal modifier or the deletion of certain lexical features of the target VM.

The semantic type of the verbal modifier has an effect on the lexical retrieval of complex predicates. Prefixal preverbs are easier to retrieve than

argumental preverbs, the lexical activation of prefixed verbs is better preserved during sentence production.

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PERSON AND NUMBER AGREEMENT IN AGRAMMATISM*

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Abstract

We investigated the person and number agreement performance of three agrammatic aphasics in sentences and possessive nominal phrases. In the tasks the patients had to supply 108 incomplete possessed nominal phrases and 108 incomplete verbs with the right inflectional markers. Generally, the number or person agreement feature was checked in the answers, resulting in agreement errors. This finding suggests the diversity of the person and the number feature checking in the course of syntactic derivation. On the basis of substitution errors we will argue that in agrammatism the selection of the replacing suffixes is influenced by two factors. One of them is syntactic and the other is a nonlinguistic one.

Introduction

This paper deals with production on verbal and nominal agreement in three Hungarian agrammatic Broca's aphasic patients on two types of completion tasks.

Our aim is to point out that agreement marker substitution is more frequent than omission and that the selection of wrong agreement markers is not accidental but shows some sort of regularity. Wrong suffix on the verb or possessed NP may differ from the target only in one agreement feature or in both of them. In the former case either the person or number feature of the target is altered. In the latter case, however, both number and person features are replaced. All types of feature replacement result in a mismatch between the agreement feature of the verb and the subject or between the possessor and possessed NP. This mismatch prevents the feature checking operation from erasing uninterpretable features from the syntactic representation, resulting in agreement errors. Based on our data, we suppose that the checking of person and number agreement features can take place independently from one another.

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We will argue that in agrammatism the selection of wrong suffixes is influenced by two factors. One of them is limited syntactic capacity of the patient and the other one is a so-called nonlinguistic factor.

The paper is divided into seven sections. In the first section, a presentation of the linguistic background introduces the analyses of agreement errors in terms of various theories. The second and the third sections detail the materials, the method and the subjects' data. A quantitative analysis is presented in the next section. The discussion contains possible explanations for errors found in the answers. The conclusions and a short summary close the study.

1. Linguistic background

Various types of aphasia, which often result from cerebrovascular accident, may comprise different kinds of problems in speech and in comprehension of spoken and written language. Nonfluent aphasia is associated with reduced effortful speech, dysprosody, word finding difficulties, phonological paraphasias. Omission of particular closed class elements, syntactic deficits in spontaneous speech, asyntactic comprehension are referred to as agrammatism. This syndrome is frequent but not necessarily a correlate of nonfluent Broca's aphasia.

According to early linguistic theory, agrammatism is a phonological deficit resulting in a strong tendency to omit non-stressed (function) words, while stressed content words[1] are retained. Articles, pronouns, auxiliary verbs, complementisers, prepositions belong to free-standing grammatical morphemes, which usually do not bear stress. Plural markers, possessive, tense and agreement markers, so-called non-free morphemes can be attached to the word boundary. These morphemes do not change the stress pattern of the stem to which they are attached, they are unstressed in phonological words.

Kean (1977) suggested that agrammatic patients have difficulties with grammatical morphemes which are not phonological words. This phonology-based theory explains why agrammatism affects free-standing function words and non-free grammatical morphemes equally. However, it cannot give an explanation to why inflectional markers are more vulnerable than derivational morphemes.

[1] Content words are nouns, adjectives, verbs and adverbs.

One of the central ideas of the morphological accounts of agrammatism was that accessibility of content words is successful while the vocabulary of functional words is inaccessible. This asymmetry between recalling open class and closed class elements from the mental lexicon results in omission of agreement suffixes. Several researchers advocating a time-based approach to agrammatic speech emphasise the desynchronisation of language processing in agrammatism. Content and functional morphemes have to be integrated into the syntactic representation of a grammatical sentence. This integration requires that both types of morphemes have to be activated. Desynchronisation in recalling closed and opened class element blocks the integration of these elements into the syntactic representation resulting in agrammatic sentence processing (Kolk 1995).

Several case studies in agrammatism emphasise that language production depends on the type of the language and the type of the task. Suffix substitution errors are most frequently found in richly inflected languages. However, omission of various bound morphemes are frequent in poorly inflected languages (like English).

The substitution errors, however raise the question of how inflectional suffixes are represented in the mental lexicon. Corbett and Frazer (1993) suppose that morphosyntactic information is organised in a hierarchical "informational tree" represented by various types of affixes. Information is "inherited" in top-down direction in the tree. The more unmarked a suffix is, the lower it is in the information tree. Corbett and Frazer showed that agrammatic patients mostly substitute a marked suffix by an unmarked one in their spontaneous speech.

The progress of linguistic research makes syntactic theory capable of accounting for several agrammatic symptoms in production and in comprehension. According to the Minimalist Program (MP) (Chomsky 1995) the grammatically relevant properties of a constituent (phonetic, semantic, morphological, syntactic) can be characterised in terms of various features: Head features, Complement features and Specifier features (they can be interpretable and uninterpretable features). For example, the head features of a verb describe the tense form and the agreement properties (person/number) of the verb. Complement features represent the morphosyntactic properties of the verb's complement (i.e., object). Specifier features, however, describe the properties of the subject (or specifier) of the verb (these features can be weak or strong).

Grammatical features must be checked in the course of syntactic derivation in order to create a syntactic representation, which contains only those

features that are interpretable at Logical Form. (The LF represents the linguistic aspects of meaning). Semantically uninterpretable features have been erased from the representation by means of a feature checking operation. In the course of the checking process various morphosyntactic features of the verb and its subject and its object are matched. That is, the **specifier features** of the verb are checked against the **head features** of its subject. The **complement features** are checked against the head features of the object. If there is a match between the verb's specifier features and the head features of the subject the uninterpretable head features of the verb are erased, resulting in an interpretable representation. In the same way, the uninterpretable complement feature of the verb is erased if it matches head features of the object. A mismatch between the relevant features of the **checker (subject, object)** and the **checked (verb)** results in an uninterpretable representation.

There is a configurational restriction on feature checking. The syntactic structure of a sentence consists of various lexical and functional projections organised hierarchically. Lexical projections are projections of lexical heads. Functional projections are projections of functional heads (e.g., Inflection, Subject Agreement, Tense, Object Agreement). Checking of grammatical features of a verb is carried out in the functional projections, so the verb has to move to the head position of various functional projections.

Hagiwara (1995) proposed that a damaged functional head does not project higher, so it blocks the verb from checking its relevant features. He predicted that the lower a functional projection is in the syntactic structure of the sentence, the more accessible it is to agrammatic aphasics. Japanese, Italian and French data (Lonzi Luzatti 1993) confirm the theory of preserved lower projections.

Friedmann and Grodzinsky (1995) focus on a selective impairment of the functional projections, e.g., Tense Phrase and Agreement Phrase. They presented a case study of an agrammatic patient who showed impairment in tense inflection while agreement inflection (person, number, gender) was intact. According to their hypothesis an impaired head cannot project higher, so projections above this impaired head cannot be integrated into the syntactic tree of the sentence, resulting in a "pruned tree". The verb cannot reach or cross over a defective head. Consequently, the checking of morphological features cannot be carried out in this impaired functional node and other functional nodes above the defective head. In Hebrew agrammatics the syntactic tree is pruned in the Tense node, so they cannot construct the syntactic tree above this node. This theory can explain Hebrew data, but according to other results Italian and French agrammatics do not support the Pruned Tree Hypothesis.

Hungarian agrammatic spontaneous speech data show impaired subject agreement without the impairment of the tense agreement. Bánréti (2000) claims that these patients are able to check morphosyntactic features of the verb in Agr_SP, Agr_OP and the tense feature in the TenseP. They can construct a syntactic tree involving these functional phrases. They have to use discourse information (represented by an intonation pattern) in order to fill the Topic and the Focus positions of the sentence. For this purpose the discourse information has to be mapped onto the syntactic representation by a reanalysis process. He claims that various pieces of syntactic or morphosyntactic information might be lost during this reanalysis, resulting in agreement and tense errors in sentence repetition.

In this study we investigated agreement in sentences and in possessive nominal phrases in three Hungarian aphasic patients. We review Hungarian sentence structure before presenting the results of our investigation.

1.1. Hungarian sentence structure

Hungarian is a richly inflected language. The syntactic role of the constituents (subject, object etc.) is expressed by suffixes and not by word order. In a finite sentence the subject agrees with the verb in person and in number. The agreement suffix on the verb unambiguously marks the person and the number of the subject, thus omission of a pronominal subject is allowed.

From a communicative/pragmatic point of view Topic in [Spec TopP] and Focus in [Spec FP] are the most important functional projections in Hungarian. The Focus at the beginning of the predicative part represents the main assertion of the sentence (É. Kiss 1987; 1994; Kálmán 1985a; 1985b). In Hungarian, any constituent can be focused by preposing into focus position. Its semantic role is identification by exclusion. Focusing triggers verb movement into the head position of the Focus Phrase in order to check the focus feature. Pragmatically, the topic of a sentence serves as the logical subject of an utterance. It conveys old information in the sentence. One or more constituents may be topicalised by preposing to topic position. Figure 1 shows the hierarchical structure of the functional and lexical phrases in Hungarian a sentence. As can be seen the order of the functional phrases is the following: Topic Phrase > Focus Phrase > Subject Agreement Phrase > Object Agreement Phrase > Tense Phrase > Verb Phrase. (The topic and focus positions may remain empty.)

In Hungarian, a transitive verb has two inflectional paradigms referred to as "subjective" and "objective" conjugation (see Table 1). Both paradigms consist of six forms, corresponding to the number and person of the subject.

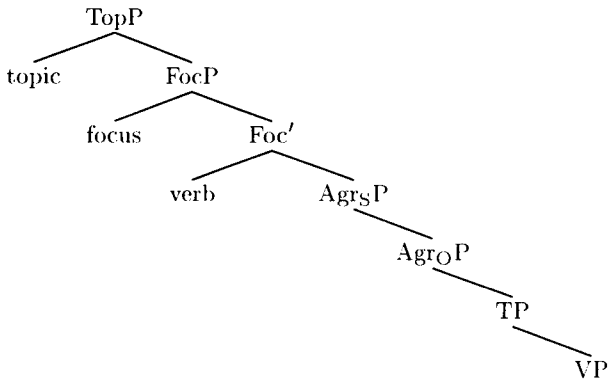

Fig. 1
Syntactic structure of a Hungarian sentence containing a focused constituent

The choice between the two paradigms depends on the properties of the object. A verb having a DP object is inflected according to the "objective" paradigm. It has a [+specific/definite] feature which has to be checked in Agr_OP. The head of this projection is specified for a [+specific/definite] agreement feature. On the other hand, a verb having a NP/NumP object is inflected in the "subjective" paradigm. It has a [−specific] complement feature. This feature is checked in Agr_OP which has [−specific/definite] head feature. In the course of syntactic derivation, the agreement and tense features of the verb are checked in the functional phrases Agr_SP and TenseP, respectively. The inflection of the intransitive verb is identical to the subjective paradigm of the transitive verb. However, there is no Agr_OP in the syntactic tree in this case. In accordance with the MP, all agreement features of the verb are checked in the syntactic representation of a grammatical sentence.

Table 1
Subjective and objective verbal paradigms in Hungarian

personal pronoun	"subjective" conjugation	"objective" conjugation
én 1sg	kap + *ok*	kap + *om*
te 2sg	kap + *sz*	kap + *od*
ő 3sg	kap + ∅	kap + *ja* + ∅
mi 1pl	kap + *unk*	kap + *juk*
ti 2pl	kap + *tok*	kap + *já* + *tok*
ők 3pl	kap + *nak*	kap + *ják*

1.2. Structure of possessive nominal phrases in Hungarian

There are two types of possessive constructions in Hungarian, depending on whether the possessor is marked by the nominative case on *János+nom* in (1) or by the dative case on *János+nak* in (2).

(1) János barát + ja
John+nom friend+possessive marker

(2) János + nak a barát + ja
János + dat the friend + possessive marker

If the possessor is expressed by a personal pronoun the possessed NP consists of three segments: a noun stem; a possessive marker *-ja* indicating the relationship 'to be possessed' and an agreement marker. In (3), the form *barátjuk* 'their friend' consists of a stem (*barát*), a reduced possessed marker *-j* and the 3rd person plural agreement suffix *-uk*.

(3) az ő barát + j + uk
the he/she [stem + possessive marker + agreement marker]
their friend + poss.marker + 3pl

The complete form of the possessive marker *-ja* occurs solely on the 3rd person possessive form, (4). Such a form involves three segments too: the noun stem (*barát*), the possessive marker *-ja* and the 3rd person singular agreement marker expressed by a zero morph.

(4) az ő barát + ja + ∅
the he/she [stem + possessive marker + agreement marker]
his/her friend+poss.+3sg

The possessive marker fuses into 1st and 2nd person singular, and 1st and 2nd person plural agreement markers, producing non-transparent forms (5a, b). In these cases the agreement markers *-om, -od, -nk, -tok* have complex structures involving the morphosyntactic features [+poss; αnumber; βperson]. These features, however, are marked in a single morpheme lexically.

(5) (a) az én barátom
the I friend + om [+poss; +sg; 1st person]
'my friend'
(b) a te barátod
the you-sg friend + od [+poss; +sg; 2nd person]
'your friend'

The paradigm of possessive agreement is almost identical with the objective inflectional paradigm of the transitive verb (Szabolcsi 1994; Bartos 1997; den Dikken 1999), see Table 2. That is, 1st and 2nd person singular and 3rd person plural forms are identical with the objective inflectional suffixes. The 3rd person singular, 1st and 2nd person plural forms agree with the subjective inflectional markers.

Table 2

The 1st and 2nd person singular, and the 3rd person plural possessive agreement markers are identical with the same persons of the objective verbal agreement paradigm; the 3rd person singular and the 1st and 2nd person plural forms are identical with the same persons of the subjective verbal agreement suffixes

personal pronoun	"subjective" paradigm	"objective" paradigm	possessor agreement paradigm
én 1sg	kap + *ok*	kap + *om*	kalap + ***om***
te 2sg	kap + *sz*	kap + *od*	kalap + ***od***
ő 3sg	kap + ∅	kap + *ja* + ∅	kalap + *ja* + ∅
mi 1pl	kap + *unk*	kap + *juk*	kalap + *unk*
ti 2pl	kap + *tok*	kap + *játok*	kalap + *otok*
ők 3pl	kap + *nak*	kap + *ják*	az ő kalap + ***juk***

In the 3rd person, the form of the plural pronoun is the same as the 3rd person singular pronoun. As can be seen, plural marker *-k* is missing on the third person plural pronoun (*az ő/*ők kalap+juk* 'their hat'). The plurality of the possessor is marked by the agreement marker (*-juk*) on the possessed DP only.

In this study, we are particularly interested in the difference – if any – between the agreement errors found in possessive constructions and in sentences containing finite verbs. How do errors support the assumed syntactic structure of Hungarian sentences and possessive phrases?

2. Material and procedure

Two types of task – called VERB-AGR and POSS-AGR – used in order to investigate the process of agreement.

2.1. Material

The test material was divided into two main groups. In group I, abbreviated as VERB-AGR, 108 experimental items were collected to examine the production

of verb agreement in a sentence context. Each experimental item consisted of a present tense transitive verb without an agreement marker, a definite object expressed by a DP and a personal pronoun subject. In each target sentence a gap indicated the missing agreement marker of the verb, (6).

(6) Target sentence

Én ír . . . . . a levelet.
I-nom write the letter.

In group II (hereafter abbreviated as POSS-AGR) there were 108 incomplete possessed nominal phrases to investigate the patients' performance on agreement marking in possessive constructions. Each nominal phrase consisted of an incomplete "possessed" expressed by a bare noun, and a "possessor" expressed by a personal pronoun, (7).

(7) Target possessive phrase

az én könyv . . . . .
the I-nom book
'my book'

In Hungarian, using the 3rd person plural pronoun (*ők*) as possessor is not permitted. The correct form (*ő*) permits the missing of the plural marker *-k* (e.g., *az ő/*ők könyv+ük* 'their book'). The agreement marker *-ük* on the possessed noun determines the person and the number of the possessor unambiguously. In order to investigate the production of 3rd person plural suffix, we used a pronominal dative possessor *őnekik* 'he-3pl-dat'. But in these cases the incomplete possessed and the possessor had to be separated by a verb, (8).

(8) Target 3rd plural possessor

őnekik leesett a könyv . . . . .
they-dative_possessor has fallen down the book

Each personal pronoun was used eighteen times in the target items.

2.2. Procedure

All sessions began with practice items. Each patient was tested individually. The examiner read the incomplete sentences aloud (the patients could monitor experimental items in a written form). The patients were required to repeat

the sentences with the correct inflectional ending. If the patient had several attempts, the last answer was accepted.

3. Subjects

Our subjects were three agrammatic Broca's aphasic patients. All subjects were right handed Hungarian speakers with a left side damage. Table 3 shows clinical data of our patients. Each non-fluent subject showed agrammatic phenomena in their spontaneous speech, e.g., reduced sentence and phrase length, substitution of verbal or nominal inflection markers.

Table 3
Clinical data of the aphasic subjects

Subj.	Age	Sex	Educat'n	Localisation	Time postonset	Aph. type	WAB AQ
Sz.V.	42	male	17	fronto-temporo-parietal	15 months	Broca's	64.0
JS	57	fem.	12	frontal	5 months	Broca's	48.6
Sz.Á.	50	fem.	16	fronto-temporal	6 months	Broca's	52.0

Sz.V. is a 42-year-old, right-handed man, who worked as an engineer. He suffered an ischemic stroke caused by the occlusion of the left artery cerebry media. The CT scan revealed a hypodense area in the left hemisphere, in the territory of the middle cerebral artery. His spontaneous speech was nonfluent, typically agrammatic. He produced simple sentences involving omission of definite articles, agreement and tense errors in spontaneous speech and sentence repetition tasks. He was able to read isolated words and short phrases, but he produced phonemic paraphasias and substitution of case markers and inflectional endings in reading long sentences.

J.S. is a 57-year-old female, who suffered an ischemic stroke. The CT scan showed multiple lesions in the frontal region of left hemisphere. She displayed nonfluent effortful and telegrammatic speech containing case marker omissions or substitutions. She was able to comprehend words and reversible sentences. Her reading was intact both in word and sentence levels.

Sz.Á. is a 50-year-old, right-handed female engineer. She suffered ischemic stroke caused by the occlusion of artery cerebra media. The CT scan revealed a large lesion in the temporo-parietal part of the left hemisphere. Her spontaneous speech was slow, consisting of short disconnected phrases or sentence fragments without finite verbs. She did not show syntactic comprehension

problems for words or sentences. She was able to comprehend written and spoken phrases and sentences.

Aphasia diagnosis was made by the Hungarian version of the Western Aphasia Baterry (WAB) (Osmán-Sági 1991).

4. Results

We found nearly as many grammatic answers (333 (0.51)) as agrammatic ones (315 (0.49)) among the 648 answers of the three patients (Table 4). We observed a difference between the two tasks in the proportion of incorrect answers. Patients produced 196 (0.60) incorrect sentences in the VERB-AGR task and 119 (0.37) agrammatic answers in the POSS-AGR task.

Table 4
Proportion of grammatic and agrammatic answers in the VERB-AGR and POSS-AGR tasks

Number of answers 648	Number of grammatic answers 333 (0.51)	Number of agrammatic answers 315 (0.49)
VERB-AGR (324)	128 (0.40)	196 (0.60)
POSS-AGR (324)	205 (0.63)	119 (0.37)

The errors found in 315 agrammatic answers were categorised into two types: omission and substitution errors. Table 5 shows that suffix omission is not a typical error of agrammatic answers. Not more than 5 (0.04) suffix omissions were found, and only in the case of possessive nominal phrases. Conversely, there were 310 (0.99) substitution errors in the two tasks.

Table 5
Error types and their proportion in the VERB-AGR and POSS-AGR tasks

	Substitution error	Omission error
VERB-AGR	196 (1.00)	
POSS-AGR	114 (0.96)	5 (0.04)

The distribution of errors between verbal agreement suffixes shows that the production of plural inflectional markers proved to be worse than production of singular ones in the VERB-AGR task. 88 (0.45) substitution errors were found among the singular forms and 108 (0.55) substitution errors among the plural forms. The proportion of substitutions between the six suffixes is detailed

Table 6
Proportion of errors between the suffixes in the VERB-AGR task

Target suffixes	Number of the feature substitutions (196)
1sg *-om*	**18 (0.09)**
2sg *-od*	**43 (0.22)**
3sg -∅	27 (0.14)
1pl *-juk*	29 (0.16)
2pl *-játok*	**43 (0.22)**
3pl *-ják*	33 (0.17)

in Table 6. Most errors were found in the 2nd person suffixes and fewest substitutions occurred in the 1st person singular form (numbers printed in bold type).

Similarly, production of correct plural suffixes were more difficult than the production singular ones in the POSS-AGR task. As can be seen in Table 7, there were 44 substitution errors in singular forms and 70 errors in plural forms. The proportion of errors between the six suffixes shows a slightly different picture in this task. Most substitutions were found in 3rd person plural suffixes and fewest in the 1st plural.

Table 7
Proportion of errors between the agreement suffixes in the POSS-AGR task

Target suffixes	Number of the poss'd agr. feature substitutions (114)
1sg *-om*	**9 (0.08)**
2sg *-od*	21 (0.19)
3sg -∅	14 (0.12)
1pl *-juk*	12 (0.10)
2pl *-játok*	18 (0.16)
3pl *-ják*	**40 (0.35)**

Summary: Quantitative analysis of the agrammatic answers shows that (i) the production of singular suffixes is easier than that of the plural ones, (ii) 2nd person singular and plural agreement markers are most frequently substituted in the verb completion task and the 3rd person plural suffix in the possessor completion one and (iii) taking all substitutions into account, the fewest errors were found in the production of the 1st person singular marker.

5. Discussion

In this section, we will examine the substituted suffixes in order to discover what kind of linguistic and/or nonlinguistic factors may influence their selection. All substitutions result in agrammatic answers containing agreement errors.

5.1. Error types in the VERB-AGR task

The wrong suffixes were arranged into four subgroups depending on which agreement feature of the target suffix was altered.

In the group **number feature violation error,** a wrong suffix differs from the target in the number feature only. In example (9), the 2nd person plural suffix *-játok* is substituted by the 2nd person singular suffix *-od*. The target and the substituted suffix differ from each other only in the number feature but not in the person feature.

(9) Target sentence

Ti számol+játok a pénzt.
you-pl-nom count-pres-2pl the money-acc
'You are counting the money.'

Agrammatic answer

*Ti számol+od a pénzt
you-pl-nom count-pres-2sg the money-acc

The **person feature violation error** group refers to the substitution in which a substituted suffix differs from the target in the person agreement feature but not in the number feature. In (10) the required 1st person singular marker *-om* is substituted by the 3rd person singular zero suffix -∅.

(10) Target sentence

Én hallgat+*om* a zenét.
I-nom listen-pres-1sg the music-acc
'I am listening to music.'

Agrammatic answer

*Én hallgatja+∅ a zenét
I-nom listen-pres-3sg the music-acc

The **number and person feature violation** group involves agrammatic answers in which the wrong suffixes differ from the replaced ones both in person and number features. In example (11) the substituted 2nd person singular suffix *-od* differs from the required 3rd person plural suffix *-ják* in the person and in the number feature as well.

(11) Target sentence

Ők diktál+*ják* a levelet.
they-nom dictate-pres-3pl the letter-acc
'They are dictating the letter.'

Agrammatic answer

*Ők diktál+*od* a levelet
they-nom dictate-pres-2sg the letter-acc

The substitution of an objective agreement suffix by a subjective one is referred to as a **definite error.** Answer (12) is an instance of this type of substitution. The requested objective verbal suffix *-om* is replaced by the subjective inflectional suffix *-ok* (*csomagol+ok* 'wrap'). The number and person features of the replaced and substituted suffixes have not been altered. (This error group is found in the VERB-AGR task only.)

(12) Target sentence

Én csomagol+*om* a könyvet.
I-nom wrap-pres-obj_1sg the book-acc
'I am wraping the book.'

Agrammatic answer

*Én csomagol+*ok* a könyvet
I-nom wrap-pres-subj_1sg the book-acc

Table 8 summarises the four groups of errors and their proportion between the six suffixes. The target suffixes are indicated in the first column and the error types in the first row. The last column shows the error number in each suffix. A shaded box indicates that this kind of suffix error does not exist. For example, there is no singular agreement marker that differs from the 1st person singular suffix only in its number feature (see first column in Table 8). Another example: there are no plural suffixes that differ from the 1st person singular suffix only in the person feature (second column).

A white box indicates possible suffix-replacements. It contains the wrong suffixes which were found in agrammatic answers. Quantitative analysis of answers shows that suffixes replaced most often are the 2nd singular and 2nd plural suffixes and the least number of errors was found in the 1st person singular agreement marker (figures in bold type in Table 8).

Table 8
Proportion of various substituted suffixes in the VERB-AGR task

target suffix	number feature violation substituted (wrong) suffixes		person feature violation substituted (wrong) suffixes		number & person feature violations substituted (wrong) suffixes		definite error		sum
	sing	plur	sing	plur	sing	plur	sing	plur	
1sg		1pl (1)	2sg (1) 3sg (7)				9		**18**
2sg		2pl (7)	1sg (10) 3sg (17)			1pl (1)	8		**43**
3sg		3pl (6)	1sg (14)				7		27
1pl	1sg (12)			3pl (1)	3sg (7)			12	32
2pl	2sg (5)			3pl (8) 1pl (2)	1sg (8) 3sg (13)			7	**43**
3pl	3sg (10)			2pl (6) 1pl (2)	1sg (3) 2sg (2)			10	33
324	27	14	49	19	33	1	24	29	196
	41		68		34		53		

After presenting the number of substitutions in each target suffix, we need to examine what types of suffixes occur in various types of feature violation. Wrong suffixes indicate that only one of the agreement features of the target suffix is identifiable for patients in the first and second error groups. Diversity of the two features raises the question of the number of functional projections we need in order to check the agreement features of the finite verb. In accordance with MP, however, the checking process of all phi-features (number/person) is carried out at a single node Agr_SP. Wrong suffixes lead us to assume that there are two functional projections, one for person and another one for the number feature. However, these two features are expressed by only one morpheme, and dividing it into two functional projections is difficult.

Instead of supposing a divided projection, we assume that checking person and number features take place independently; but on the same subject agreement projection. The two mechanisms can operate in a "trade off" manner in agrammatism. That is, only one or the other of the features is checked because of the patients' limited syntactic capacity. This feature checking results in various wrong suffixes in each person in the error groups **person feature violation** and **number and person feature violation.** Our patients show a tendency to select the 1st and 3rd person singular suffixes but not the 2nd person ones. Substituted suffixes result in syntactic representations involving unchecked uninterpretable features.

Let us go back to the error types of Table 8 to show that the occurrence of a wrong suffix can be influenced by two factors:

(i) the patients' limited syntactic capacity to check only one of the agreement features and/or

(ii) the preference of the 1st and 3rd person singular suffixes in the selection of agreement markers.

In the error group **number feature violation** the patients produced the correct person feature but not the number feature of the target suffixes. In terms of MP, the checking of the person feature of the verb could take place in Agr_SP. In this case there was only one wrong suffix per person which differed from the target in the number feature only. For example, the only suffix which differs from the 2nd person singular suffix in the number feature only is the 2nd person plural suffix *-játok*. Another example, the 3rd person plural suffix is the only one that differs from 3rd person singular form in the number feature. In this error group, there is only one possible substituted suffix (to choose), so the tendency to preferring the 1st and 3rd person singular agreement markers does not influence suffix selection.

In the error group **person feature violation,** however, the patients are able to produce the correct number feature only. Checking of this feature of the verb is carried out. However, in each target suffix there were two possible suffixes supplied with different person features which differ from the target in the person feature only. Let us look at some examples in Table 8. There are two suffixes (1st and 3rd singular) which differ from the 2nd singular suffix in person feature. Both of them were used by the patients (second line in Table 8). Another example, both 2nd and 3rd person plural suffixes differ from the target 1st person plural suffix in the person feature. In these cases, the patients could choose between the two possible replacing suffixes so the

tendency to preferring the 1st and 3rd person singular agreement markers does influence suffix selection.

In the group **number and person feature violation,** neither of the two agreement features are produced correctly. This means that neither the person, nor the number feature is checked in AgrsP. For example, there are two suffixes (3rd and 2nd singular suffixes) which differ from the target 1st person plural suffix both in number and person features (fourth line in Table 8). The patients used the 3rd person singular suffix but not the 2nd person singular one. It is assumed that in this error group the only influencing factor is the preference of the 1st and 3rd person singular suffixes in the choosing of replacing suffixes.

Table 9 shows the number of times the patients chose 1st, 2nd or 3rd person singular or plural suffixes in the **person feature violation** and **number and person feature violation** error groups. As can be seen, the 1st and the 3rd person singular suffixes were the most frequent wrong suffixes. Nevertheless, plural suffixes rarely occurred as wrong suffixes, as can be seen in Table 9. The total number of the wrongly used plural suffixes was 20 only in contrast with 82 singular wrong suffixes (in two error groups).

Table 9
The number of wrong suffixes in the error types
person feature violation and **number and person feature violation**

	1st person	2nd person	3rd person	total number
singular suffixes	35	3	44	82
plural suffixes	5	6	9	20

Until now we have not found a satisfactory explanation for the preference of the 1st and 3rd person singular suffixes. One possible reason might be that the children acquire the 1st person suffixes first.[2] This can be a reason why these suffixes are overused in agrammatic answers or why they disappear later than the others in agrammatism. Another explanation can be the frequency of 1st and 3rd person singular finite verbs. The absolute frequency of these verbs is higher than that of 2nd person singular or 1st, 2nd and 3rd person plural verb forms in Hungarian (Füredi Kelemen 1989).

Let us examine the number of replacements in the three feature violation groups. 88 replacements were found in singular suffixes and 108 in plural suffixes (Table 8). The production of correct singular forms was easier than that

[2] Csaba Pléh, personal communication.

of the correct plural forms. Unfortunately, we have not found an explanation for this discrepancy (one possible reason might be that plural forms are more marked than singular ones).

In 53 agrammatic answers patients switched from objective conjugation to subjective, called **definite error** in Table 8. As was mentioned in the previous section, objects expressed by a DP require objective verbal conjugation and NP/NumP objects require subjective conjugation.[3] In the 53 agrammatic answers the [+specific/definite] feature of the finite verb is substituted by [−specific/definite] resulting in a mismatch between the complement feature of the verb and the head feature of the DP object. This type of feature violation mostly occurred without altering other agreement features. This type of error will be discussed in more detail in section **6.**

In summary, the main findings of this section were the following:

(i) in agrammatism the checking of number and person features can take place independently of each other without supposing a divided subject agreement projection

(ii) the occurrence of a wrong suffix is influenced by two factors:
   a. the patients' limited syntactic capacity to produce or check only one of the agreement features and
   b. the preference of the 1st and 3rd person singular suffixes in the selection of possible substituted suffixes.

In the following subsection, we will examine the error types found in the POSS-AGR task.

5.2. Error types in the POSS-AGR task

Similarly to the errors found in the VERB-AGR task, three types of feature violations occurred in the possessive noun phrase completion task.

Answer (13) is an instance of person feature violation. The 2nd person singular possessed agreement marker *-ad* is substituted by the 1st person singular *-am*. The replaced and substituted suffixes differ from each other only in their person features.

[3] DPs are specific phrases, NP/NumPs are non-specific phrases (Bartos 1999).

(13) Target phrase

a te láb+*ad*
the you-sg-nom foot-2sg
'your foot'

Agrammatic answer

*a te láb+*am*
the you-sg-nom foot-1sg

Conversely, only the number feature of the required suffix is altered in (14). The target 2nd person plural suffix *-tok* is substituted by the 2nd person singular *-ad*. The person features of the two agreement markers are not altered.

(14) Target phrase

a ti ház+*atok*
the you-pl-nom house-2pl
'your (pl.) house'

Agrammatic answer

*a ti ház+*ad*
the you-pl-nom house-2sg

However, we found answers in which replacing affixes differ from the target ones both in person and number features, (15).

(15) Target phrase

az én ház+*am*
the I-nom house-1sg
'my house'

Agrammatic answer

*az én ház+*atok*
the I-nom house-2pl

Table 10 summarises the error types, the number of errors and the number of wrong suffixes. Shaded boxes mark those kinds of suffixes which do not exist. For example, there is no suffix which belongs to the objective inflectional paradigm and differs from the 1st person singular suffix in the number feature only (first line in the first error group Table 10). White boxes indicate possible suffix replacement. For example, there are two suffixes (3sg and 2sg) which

Table 10
Proportion of errors among various agreement features in the POSS-AGR task

target suffix	number feature violation substituted (wrong) suffixes		person feature violation substituted (wrong) suffixes		number & person feature violations substituted (wrong) suffixes		total number of errors
	subjective paradigm	objective paradigm	subjective paradigm	objective paradigm	subjective paradigm	objective paradigm	
1sg	1pl (3)		3sg (1)	2sg (1)	2pl (2)		7
2sg	2pl (10)		3sg (3)	1sg (3)	1pl (4)		20
3sg		3pl (4)		1sg (2) 2sg (3)	1pl (3)		12
1pl		1sg (3)	2pl (2)	3pl (2)	3sg (3)	2sg (2)	12
2pl		2sg (8)	1pl (5)	3pl (1)	3sg (2)		16
3pl	3sg (27)		1pl (4)			1sg (1) 2sg (1)	33
	40	15	15	12	14	4	100

differ from the 1st person singular suffix in the person feature only. One of them is the objective agreement suffix and the other is the subjective one (first line in the second error group in Table 10). Another example, there are two suffixes which differ from the 3rd person singular suffix only in the person feature (third line in the second error group in Table 10). Both of them are objective agreement suffixes (1sg, 2sg).

The last column shows that completion of the possessed noun with the 1st person singular suffix was the most successful. Only 7 incorrect answers were found in this group. The production of the 2nd person singular and 3rd person plural suffixes proved to be worse in comparison with the 3rd person singular and 1st and 2nd person plural suffixes. However, the latter three suffixes belong to the subjective verbal paradigm while the former ones to the objective paradigm. Our patients frequently substitute the objective agreement markers with the subjective ones.

Based on our data, we claim that the preference of the subjective possessor agreement marker and limited syntactic capacity to check both agreement features have an effect on the production of the wrong suffixes. In what follows, we will investigate the various types of feature violations one by one to show how two effects manifest themselves.

In the **number feature violation** error group, alteration of the number feature results in switching from the subjective agreement paradigm to the objective one in each suffix. For example, number feature alteration of the 1st and 2nd person objective singular suffixes results in 1st and 2nd person subjective plural suffixes (first line in Table 10). In this error group, we found more number feature substitutions resulting in subjective agreement markers than objective ones.

The situation is slightly different in the group **person feature violation.** The preference of the subjective agreement features manifests in the choice of the wrong suffix. For example, person feature violation of the 1st person singular subjective agreement marker (*-om*) results in two suffixes. One of them is the 2nd person singular (*-od*), and the other is the 3rd person singular (zero morpheme). The former is an objective marker and the latter is a subjective one. Patients more often chose the subjective one because of the "preference" mentioned previously.

In the third error group, the **number and person feature violation,** neither of the agreement features were produced correctly. We claim that the preference of the subjective agreement markers is the only factor which effected the possible replacing suffixes. For example, patients were unable to produce any of the agreement features of the target 1st person singular subjective suffix (*-om*). There are two possible replacing suffixes which do not agree with the target in person and number. One of them is the subjective 2nd person plural suffix (*-unk*), the other one is the objective 3rd person plural suffix (*-juk*). Our patients chose the subjective suffix more often as can be seen in Table 10. Total number of the wrong subjective suffixes was 14, while the number of the wrong objective ones was only 4. We will try to give an explanation of this preference in section **6.**

Finally, Table 11 shows the occurrence of the various replacing suffixes in the error types **person feature violation** and **number and person feature violation.** As can be seen, the 1st person plural suffix appeared more often than the other five suffixes.

Table 11

The number of replacing suffixes in the error types **person feature violation** and **number and person feature violation** in the POSS-AGR task

	1st person	2nd person	3rd person
singular suffixes	6	7	9
plural suffixes	16	4	3

We have to mention that the number of wrong suffixes in these two error types is too low in each person to make a general statement.

The main findings are the following:

(i) three types of feature violations were found in this task too;

(ii) two main factors seem to influence the selection of the replacing suffixes: a limited capacity to produce both agreement features (or to check agreement features, in terms of MP) and a tendency to prefer the subjective possessed agreement markers.

Summary: Three types of feature violations are found in the VERB-AGR completion task. These errors support our idea of a divided feature checking processes. That is, person and number features can be checked independently from each other at the only agreement projection (Agr_SP). Agrammatic patients with a limited syntactic capacity are unable to check either the person or the number feature, resulting in wrong suffix substitutions. Theoretically, each feature violation results in two possible suffixes in the **person feature violation** and the **number and person feature violation** error groups. A preference to select 1st and 3rd person singular suffixes was supposed in these cases. We suppose that this preference is based on pragmatic factors (e.g., frequency).

Feature violation errors in the POSS-AGR task support the claim that "divided" checking processes originated from limited syntactic capacity in agrammatism. Wrong suffixes in this task differ from those found in the verb completion task. We assume that selection of a suffix from two possible ones is based on a tendency to select the subjective one.

After all, we need further investigations to reveal why patients produced fewer substitutions in the POSS-AGR than in the VERB-AGR task.

6. Conclusions

We will try to give an answer to the following questions: Why can the "pruned tree hypothesis" not account for the error pattern found in the VERB-AGR task? How can we explain the preference of the subjective possessed agreement markers? How can we explain the discrepancy between the two tasks in the type of substitution and the replacing suffixes?

In order to answer the first two questions we have to examine the error type **definite error** found in the VERB-AGR task. As it was mentioned previously, a verb with an objective agreement marker has a [+specific/definite] feature. This feature has to be checked in the functional projection Agr_OP.

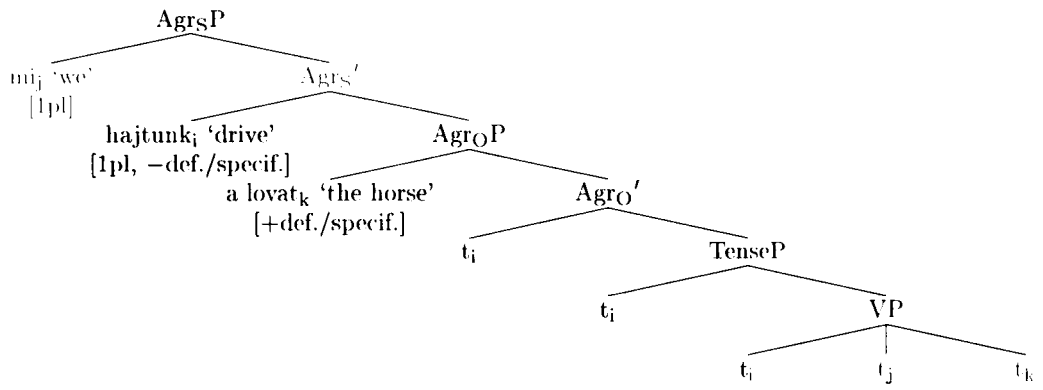

Fig. 2
Feature checking operations in agrammatic answer:
**Mi hajtunk a lovat* 'we drive a horse'

In grammatic answers, the patients were able to produce the verbs with the correct objective suffixes. Feature checking could take place in the Agr_OP. In turn, the verbs with a subjective agreement marker had a [−specific/definite] feature. There was a mismatch between the [−specific/definite] feature of the verb and the [+specific/definite] feature of the DP object. So feature checking could not take place in Agr_OP resulting in an agrammatic syntactic representation. Figure 2 illustrates the checking mechanism in the agrammatic answer: **Mi hajtunk a lovat* 'we drive a horse'.

The verb moves from the VP into the Agr_SP via TenseP and Agr_OP in order to check its features. The verb *hajtunk* has a [−specific/definite] feature while the object a lovat has a [+specific/definite] one. The [−specific/definite] complement feature of the verb cannot be checked because of the feature mismatch in Agr_OP. However, the agreement features in Agr_SP are checked. This example shows that the verb can cross a functional projection containing a feature mismatch to check its feature in a higher projection. This finding is in contradiction with the theory of "Pruned Tree Hypothesis" (Friedmann Grodzinsky 1995), which states that the impairment of a lower functional node implicates the impairment of the higher functional node in the syntactic tree. Applying this theory to agrammatic answers containing a **definite error,** omission of feature checking at Agr_OP would implicate omission of feature checking at Agr_SP as well. As can be seen in several answers, this is not the case. On the basis of this finding, we assume that a finite verb can cross over a functional

projection containing unchecked features and feature checking may take place in projections above the damaged agreement projection in agrammatism.

As it was mentioned previously, a verb with a subjective agreement marker differs from a verb with an objective marker only in the specific/definite feature. Agrammatic sentences show that production (or checking) of the [−specific/definite] feature is easier than that of the [+specific/definite] one. Similarly, number feature violation errors can be interpreted as a disturbance at the production (or checking) of the [+plural] agreement features. As can be seen in Table 8, most feature violations were found amongst plural suffixes (108). On the basis of these findings we may claim that the identification of a suffix with a $[-\alpha]$ feature is easier than that of a suffix with a $[+\alpha]$ feature in agrammatism. In order to prove this claim we should use a verb completion task with transitive verbs with non-specific objects.

There is no correlation between the substituted suffixes in the two tasks. Look at Table 12 showing the frequently used suffix-substitutions in the two tasks. Our investigation shows that production of the 2nd person suffixes was more difficult than that of the others in the VERB-AGR task. A possible reason might be that the frequency of the 2nd person finite verb forms is lower than that of the other four verb forms. However, we have to mention that this statement is based on an analysis of texts from Hungarian literature (Füredi Kelemen 1989). It must be pointed out that the 2nd person verbal form is common in everyday usage in Hungarian.

Table 12
Substituted and wrong suffixes in the two tasks

	frequent substituted suffixes	frequent wrong suffixes
VERB-AGR	2nd singular/2nd plural	3rd singular/1st singular
POSS-AGR	3rd plural	1st plural

In the POSS-AGR task, the 3rd person plural suffix was most often substituted. Recall that the condition of the completion task was altered in this type of suffix. The 3rd person plural possessor was expressed by a pronominal dative. It was separated from the possessed noun by a verb. It is suggested that the distance between the possessor and the possessed causes agreement errors.

There is no correlation between the wrong suffixes found in the two tasks either (see Table 12). The 3rd person singular objective verbal agreement marker is expressed by a zero morph in Hungarian. It is possible that this is

why the patients are able to produce it frequently. In the POSS-AGR task the 1st plural suffix was over-used.

The different error patterns found in the two tasks were surprising. We had expected that subjects would substitute the same target suffixes in verbal and in possessive constructions. We have not found a suitable explanation of why subject verb agreement is more difficult than possessor possessed agreement.

7. Summary

We studied agreement marker production of three Hungarian agrammatic patients in verb completion and possessed noun completion tasks. We were especially interested in finding out what kinds of errors they make and what kind of difference there is, if any, between the two tasks. A comparison of the tasks showed that the error types were similar but the error patterns were not. We proposed that there are two types of factors that may have an influence on the production of wrong agreement markers. One of them is a limited syntactic capacity and the other is a so-called pragmatic one. Recall that our findings were based on the performance of only three patients. In the future we intend to investigate the agreement process in other agrammatic subjects in order to find a more solid basis for our conclusions.

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VOCABULARY AND MORPHOLOGICAL PATTERNS IN HUNGARIAN CHILDREN WITH WILLIAMS SYNDROME: A PRELIMINARY REPORT*

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Abstract

Williams syndrome (WMS), a rare neurogenetic disorder, has been in the forefront of research in cognitive psychology for the last ten years. WMS is characterized by a distinctive cognitive profile: mild to moderate mental retardation with relatively and surprisingly good linguistic abilities, while performance on spatial tasks is extremely poor. Concentrating on the linguistic abilities of children and adolescents with WMS, studies of vocabulary development and grammatical development in 15 Hungarian WMS children are presented: children were tested on tasks testing vocabulary, regular and irregular morphological; measures of nonword repetition and digit span were also obtained. In contrast to previous observations, results on the vocabulary task do not show that uncommon words activated as easily for a WMS child as common ones. Results in a picture-naming task support that conforming to the normal pattern, uncommon words are harder to retrieve. Results on the production of accusative and plural forms confirmed for Hungarian as well that regardless of the frequency of the item, inflected forms of irregulars are harder to produce, and often overregularized in WMS, revealing a dissociation between the rules of grammar vs. the mental lexicon. Performance on rare words in the vocabulary task, and overall performance on the morphology task is associated to the capacity of phonological short-term memory: subjects with higher span perform better on both tasks. The specification of the close relation between the capacity of phonological short-term memory and their linguistic measures awaits further study.

1. Introduction

Williams syndrome (WMS) is a rare (1 in 25 000) genetically-based condition caused by micro-deletion of genes on the long arm of chromosome 7. Children

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with this syndrome are characterised by relatively preserved language abilities in contrast with serious deficits in other cognitive domains. They also have specific brain morphological differences compared to normal controls e.g., decreased overall brain and cerebral volumes, disproportionate volume reduction of the brainstem with relative preservation of cerebellar and temporo-limbic structures. WMS children have good social skills, they are sometimes called hypersociable because of their affective communicative style and their often indiscriminately positive approach to unfamiliar people. In contrast to their good language abilities they show serious deficits in spatial cognition and motor skill learning. Despite their visual-spatial organisation problems they show surprisingly excellent performance in face recognition, which might indicate a dissociation in the involvement of the dorsal and ventral brain streams responsible for visual processing. In the past decade WMS has attracted the attention of cognitive psychologists because it offers a population in which language and other cognitive domains are dissociated (for a survey see e.g., Bellugi et al. 2000).

In this paper we would like to focus on lexical and morphological development in WMS children from school age on.

Reviewing previous results concerning lexical development and lexical organisation in WMS people, we discuss some details of the different approaches, and in the second half of the paper we present data collected from Hungarian people with WMS.

Our Hungarian studies are relevant for several reasons. One of the central issues with regard to language is the proposed contrasts between a rule-based and an item-based system, or Grammar and Lexicon within the language faculty, which are associated with different brain areas and can be selectively impaired. Hungarian with its rich morphology and competing suffixation patterns provides a better ground to contrast rule based and item based processes than languages studied previously, with more possibilities to vary and control for frequency effects. Besides replicating studies adapted to a typologically different language, we are of course applying new methods in a complex approach of a longitudinal study, the Hungarian Williams Syndrome Research Project. In this project data are gathered from a single WMS subject pool on different aspects of language, spatial cognition, visual integration, implicit and explicit rule extraction, and memory.

1.1. Linguistic abilities of WMS people

After a late and difficult start of language development, people with WMS have remarkably fluent and grammatical speech by school age, with a conspicuously sophisticated and large vocabulary containing many infrequent and unusual words, and a constant urge to chat. Their linguistic skills are in sharp contrast with the general level of their cognitive abilities. The linguistic profile of WMS people is uneven too. Besides brilliant expressive language, we often find that language comprehension is much more limited, their speech is also often irrelevant and inappropriate, and some of their words and phrases may lack semantic content.

The cognitive and linguistic profiles of WMS people have received different accounts by different researchers and research groups. Ursula Bellugi and her colleagues emphasize the dissociation between language and cognition, pointing to the semantic abnormalities in WMS language (e.g., Bellugi et al. 2000). Another approach draws attention to the within-language dissociation of grammatical rules and lexical processes. WMS children are supposed to have a relatively intact grammar, combined with a much weaker lexical system. Therefore, overregularizations are characteristic of their performance. This view is based on Pinker and Prince's (Pinker 1991; Pinker Prince 1994) hybrid model of language, and is taken up by Clahsen in connection with WMS (Clahsen Almazan 1998). A third view is developed by Annette Karmiloff-Smith and her research group. Their central claim is that it is not only the representations or processes of language that are impaired in the first place, but as cognitive impairments are a result of a complex epigenetic process, language development in WMS takes a different course, so we might find deviant mechanisms even behind apparently normal perfomance (Karmiloff-Smith et al. 1997).

1.2. The mental lexicon of WMS people

People with WMS generally perform at a high level on standardized vocabulary tests, but several tasks show that their semantic organization is different from that of normal controls. Wang Bellugi (1994) found in a semantic fluency task that people with WMS produce more infrequent words than normal controls. Another observation revealing unusual organization of the lexicon is that of Vicari et al. (1996a; 1996b): when subjects have to reproduce words from a word list, normal controls typically reproduce more high frequency words; in people with WMS no bias is shown towards frequent words in recall.

The above findings lead some researchers to accept two distinct systems, a computational symbol-manipulating rule system of grammar and an associative network of the mental lexicon within the language faculty (Pinker 1991; Pinker–Prince 1994; Marcus et al. 1995). They propose that these two distinct systems can be selectively impaired. Williams syndrome is an example of an intact rule system with an abnormally operating mental lexicon. In morphology this means that regularly inflected forms (e.g., *talk* → *talked*; purportedly generated by the rule system) are produced easily and correctly, but the retrieval of irregular forms (e.g., *go* → *went*; stored as a whole in the mental lexicon) is impaired, with signs of overgeneralization. This is the pattern of performance we find with WMS subjects. In Clahsen and Almazan's study (1998) English-speaking WMS children could inflect existing regular stems virtually as well as unimpaired controls, while their performance on irregulars was poor; they often overgeneralize the regular suffix both to existing regular forms and to novel words rhyming with existing irregulars. This dissociation is also reflected in their performance on inflecting derivational forms. The results are interpreted as selective impairment of the lexical module of language, as an inability to retrieve information from submodes of lexical entries.

The range of contrasting views of the nature of linguistic impairment in WMS is further supplemented by Tyler et al.'s results (1997), who found in an online task that WMS people are subject to the same kinds of priming effects for both functionally related items and category coordinates as unimpaired controls. A possible interpretation given by the authors is that the organization of the WMS mental lexicon is normal, and semantic anomalies are due to the clinical subjects' inability to integrate information from the individual words into a context, i.e., the sentence.

Tapping the nature of semantic organization, Rossen et al. (1996) tested WMS subjects on three homonym tasks. In a free associations task, where subjects had to say the first word that came into their minds when hearing a homonym, WMS subjects, just as normal controls, responded mainly with words related to the primary (i.e., more frequent) associate of the homonym. In a similarity judgement task, though, WMS people judged words related to the primary and secondary associates to be equally similar to the target homonym, while normal subjects consistently judged words related to the primary associate more similar. In a definition task, WMS subjects gave definitions of the secondary associate significantly more frequently than normal controls. This may imply a looser semantic organization, where (a) in metalinguistic tasks WMS children show a more modular organization; and (b) they are less constrained by contingent associative knowledge.

1.3. Acquisition of the WMS lexicon

Some argue that despite the impressive vocabulary of adults with Williams syndrome, developmental processes of language acquisition are not only delayed, but follow an abnormal trajectory. Harris et al. (1997) contrasted early language development in children with WMS and Down syndrome (DS, a mental retardation of genetic etiology with serious linguistic impairments matching the general level of cognitive deficit; in this study, WMS mean age was 41 months, DS mean was age 39 months). They used the MacArthur Communicative Development Inventory, which relies on parental report to assess language development (see also Paterson et al. 1999). Results did not show any significant differences between the two groups in the number of words produced and comprehended, but the DS group produced significantly more gestures than the WMS group. The overall results showed that WMS children at this age were just as delayed in their language development as the DS group compared to normal children of the same age.

Another weird fact of early word learning in children with WMS is that inverting the normal course of events, naming precedes pointing. Mervis and Bertrand (in press) found in 6 children with WMS that pointing lagged behind naming with an average of 6 months. Besides less pointing, WMS children also produce less social referencing (Laing et al. 2000). An additional difference was that while in normal and DS children vocabulary spurt, fast mapping and exhaustive sorting of a pile of objects into different basic-level categories coincided, in five of the examined six WMS children vocabulary spurt leads exhaustive sorting and fast mapping, which occur together but only when vocabulary size is well over 500 words (Mervis Bertrand, in press). These results suggest that WMS children do not apply fast mapping, at least not in the acquisition of their first 500 words, and that there has to be some other mechanism responsible for vocabulary growth in their case. The authors speculate that these mechanisms are a relatively good phonological short-term memory, and attention devoted to linguistic input at the expense of other stimuli which are in the focus of normal children's attention.

The late start and delayed language development do not seem to fully account for WMS language characteristics. Stevens and Karmiloff-Smith (1997) examined WMS children with respect to four lexical constraints shown to be operating in normal vocabulary acquisition between the ages 3 to 9. These four constraints were the fast mapping, mutual exclusivity, whole object and taxonomic constraints. Examining WMS children in two age groups, 3–4 years and 9–10 years, they found that just as normal children, WMS children apply

the fast mapping constraint, i.e., they map a novel word onto an object which does not already have a name. Analogously, they rely on the mutual exclusivity constraint, stating that an object cannot have more that one name: WMS subjects mapped the novel word onto a part of the object when they already had a name for the object itself and the part was unfamiliar. Differences were found, however, between the WMS and normal groups in applying the whole object constraint, which stipulates that "a novel word heard in the presence of a novel object refers to the whole object rather than to its component parts or features such as colour, shape or texture" (Stevens Karmiloff-Smith 1997, 747). WMS subjects made significantly fewer object responses than controls when they were presented with an unfamiliar object and a novel word, so it seems that WMS vocabulary acquisition is not constrained by the whole object constraint, which might be explained in part by their bias to process local features instead of global ones in a visual display. According to the fourth, taxonomic constraint, when the child hears a novel word "X" for an object, and is requested for another X, s/he will give an object from the same taxonomic category, not simply one with the same colour, texture or shape from another taxonomic or thematically related category. In normal children the trigger of the taxonomic constraint is hearing a novel name, instead of a simple deictic word like "it". WMS children gave equally few taxonomic responses both in the novel word and the no word ("it") condition. Individual variability among WMS subjects was great but taxonomic responses showed no correlation with vocabulary size, pointing to the fact that the taxonomic constraint cannot be responsible for WMS vocabulary size. So despite the large adult vocabulary size matching those of age-matched rather than mental-age-matched controls, we cannot conclude that the language faculty is intact in WMS, because some constraints on normal vocabulary acquisition do not seem to be operating in WMS.

1.4. Evidence of lexical impairment from syntax

Despite the fact that language is a strength in WMS, we find that within-language dissociations exist. Even the idea of an intact "grammar" module was challenged by Karmiloff-Smith and collegues, who showed in several experiments that syntactic processing is in fact impaired in WMS. Most of these results, though, point to the previous observation that WMS people have difficulties retrieving information from the lexicon. In one of their studies Karmiloff-Smith et al. (1998) examined linguistic performance in an online and an offline task. The online task was word monitoring (subjects listen to sentences and

press a key when they hear a target word), examining the participants' ability of using syntactic information in interpreting a sentence, measuring their sensitivity to three different types of syntactic violation: phrase structure violations (e.g., *Susan seems much happier. I expect *special the* PILLS she got from the doctor...), subcategorization violations (e.g., *The burglar was terrified. He continued *to struggle the* DOG but he couldn't break free.) and auxiliary violations (It could have been very embarrassing. We did not realize he *might expecting* SPEECHES at the...). WMS reaction times were quite similar to those of normal controls, but while normal control subjects showed a grammaticality effect in all three conditions, WMS failed to display such an effect in the subcategorization condition, while being just as sensitive to phrase structure and auxiliary violations as normal controls. The authors, admitting that it is possible that WMS people are insensitive to lexically specified syntactic constraints, favor an interpretation in which WMS people are sensitive to such information, but its integration into the representation of a sentence is very slow. The offline task showed indeed an impairment of syntactic processing in WMS. Subjects had to choose, from among different pictures, the one matching the sentence they heard. Controls performed at a ceiling level, while WMS subjects comitted errors, on average, in 24% of the items, and 81% of their errors was choosing a syntactic distractor (they reversed the roles in the sentence) and only 19% of the times did they choose a lexical distractor. If, as recent lexicalist grammars would argue, all three types of constraints violated in the online task are lexically represented, then variation of performance in the three conditions cannot be attributed to representational differences but to the relative ease of integrating these kinds of information into the sentence during processing.

In another experiment, evidence from another language is presented supposedly showing that morphosyntactic rules are not intact in Williams syndrome. French-speaking people with Williams syndrome were tested on a gender agreement task: while their performance on repeating the nonce terms was better than those of normal controls, WMS subjects made far more errors in assigning correct grammatical gender based on largely probabilistic constraints. Although several explanations are possible, each has to take into account the fact that although gender agreement in French is a morphosyntactic rule, it draws on idiosyncratic lexical information about a word. Thus failures of correct agreement do not necessarily reflect morphosyntactic deficits, but might be explained by deficits in retrieving lexical information.

1.5. Working memory and language acquisition

As mentioned above, one of the possible engines of vocabulary acquisition in WMS children is the capacity of phonological short-term memory. Research in the last decade has shown that it is a mechanism operating in language acquisition in normal children as well. The phonological loop component of working memory is specialised for the retention of verbal information over short periods of time; it comprises both a phonological store and a rehearsal process which has the function to maintain decaying information. According to Baddeley and colleagues, the real function of the phonological loop is not to remember familiar words but to help learn new words (Baddeley–Gathercole–Papagno 1998). From this point of view the rate of vocabulary development is influenced by working memory capacity. In agreement with this conception, in childhood large individual differences are found in phonological loop capacity (Gathercole–Adams 1993). Many studies have found strong correlation between STM performance and vocabulary knowledge (Gathercole–Adams 1993; 1994; Gathercole et al. 1997).

Although correlation does not mean causation, it is possible that good vocabulary knowledge supports accurate repetition in STM tasks. However, the result of Gathercole et al. (1992) is inconsistent with this later assumption, as they found no correlation between vocabulary knowledge and STM performance 1 year later in children, but found strong correlation between earlier STM performance and vocabulary knowledge 1 year later (Gathercole–Willis–Emslie–Baddeley 1992). This result further supports the view that phonological loop capacity influences the learning of new words. Another branch of research has found connections between individual differences in working memory span and the acquisition of foreign language vocabulary (Service 1992). The measure of verbal short term memory in 10-year-old children was a very strong predictor of foreign language learning when it was tested 2 years later (Cheung 1996; Service 1992; Service–Kohonen 1995). In addition to this, polyglots have significantly higher verbal working memory span than nonpolyglot adults (Papagno–Vallar 1995).

The role of phonological loop in language learning is also revealed by cases of brain damage. Patients with verbal working memory deficit usually show a specific impairment in long-term learning of unfamiliar phonological material (Papagno et al. 1991). These patients are unable to learn auditorily presented word-nonword pairs, despite showing normal performance in learning tasks that do not require phonological working memory contribution (Trojano–Grossi 1995). Other neuropsychological evidence come from studies

of children with specific language impairment (SLI). SLI children usually lag behind their age in terms of vocabulary development (Bishop 1992). They show poor performance on both digit span and nonword repetition tasks and recall much fewer phonologically novel names than control children (Taylor-Lean Schwartz 1989).

There is also an increasing amount of data concerning the association between working memory and language development in genetic syndromes associated with some mental handicap (Jarrold et al. 1998). Wang and Bellugi (1994) compared digit span in individuals with Williams and Down syndrome, using groups matched on overall IQ. Williams syndrome children had a mean digit span of 4.6, whereas the mean span of the Down syndrome group was only 2.9. Until now no research has directly explored the relationship between phonological loop capacity and vocabulary knowledge in these groups, although it seems possible that phonological short-term memory may mediate normal levels of vocabulary learning. This was one of the main concerns of our study. Our three aims were to explore (a) lexical acquisition and phonological short-term memory, (b) frequency effects in morphological overgeneralization, (c) relationships between phonological short-term memory and morphological performance.

2. Lexical development

Our study focuses on the frequency sensitivity of active WMS vocabulary, and the relationship of lexical development with verbal short term memory. To address this issue, measures of verbal short term memory, digit span and nonword span were taken, and an oral picture naming vocabulary task was administered.

2.1. Methods

2.1.1. Participants

The group tested in this study consisted of 15 children and young adults with Williams syndrome; their mean age was 13.2 years (ranging from 5.9 to 19.6 years at the time of assessment). Subjects were recruited through the Hungarian Williams Syndrome Association, and most of them were assessed in a summer holiday camp for WMS children and their families. Children were tested individually; all of them were assessed on the vocabulary task, the digit

span and nonword repetition tests, and 14 subjects' results are included in the morphology task.

2.1.2. Verbal short term memory

Two measures of verbal short-term memory were taken, digit span and nonword repetition test. In the *digit span task*, subjects hear digit sequences of increasing length and attempt to repeat them immediately. Digits are taken from those between 1 9, and none of them are repeated within one sequence. The score is the amount of digits in the longest sequence correctly repeated; there were two token series with each length. The subject was given the score if s/he could repeat either of them; if the subject failed both trials of one length, testing terminated. In the nonword repetition test, subjects hear single unfamiliar phonological strings of increasing syllable number, and attempt to repeat them immediately. We constructed 36 nonwords of varying length (1 9 syllables, 4 items for each length). The phoneme sequences in each nonword conform to the phonotactic rules of Hungarian. Nonwords were read out by an experimenter trained on the items. The score in this task is the number of syllables in the longest nonwords correctly repeated; the subject was given the score if s/he could correctly repeat at least 50% (2) of the items, testing terminated when subjects failed all items of a given length.

2.1.3. Picture naming

2.1.3.1. Materials

Pictures in the naming task were black and white line drawings (Székely-Bates 2000; Bates et al. 2000; Druks Masterson to appear; Masterson Druks 1998), printed on cardboard paper.[1] Stimuli came in three categories: the NOUNS group had 30 line drawings of objects or animals and plants, the VERBS group consisted of 30 pictures displaying actions, and the COMPOUNDS group consisted of 20 items (for technical reasons) showing objects and creatures again, with the proviso that their name could only be a compound word. Half of the names of the items in each category were frequent words, half were rare, according to norms in the frequency dictionary of Hungarian (Füredi Kelemen 1989). Examples are given in Table 1.

[1] The reason for designing our own vocabulary test instead of using a standardized one was that there were no tests in Hungary that would have fit our specific questions.

Table 1
Examples of stimuli from the vocabulary task

	NOUNS	VERBS	COMPOUNDS
Frequent	macska 'cat'	táncol 'dance'	babakocsi 'pram'
Rare	piramis 'pyramid'	térdepel 'kneel'	karmester 'conductor'

2.1.3.2. Procedure

Participants were tested individually. They were given the pictures one by one by the experimenter, and were asked to name it in questions like "What is this?" in the case of NOUNS and COMPOUNDS, and "What is he/she/it doing?" in the case of actions. Responses were tape-recorded for later assessment; there was no time limit on the response of the subject. The independent variables were the category and the frequency of the word, the dependent variable was the correctness of the response. A response was coded as correct if it corresponded to the dominant response of normal subjects to the picture (established by Székely Bates 2000; Bates et al. 2000) or were synonymous with it in the NOUNS and VERBS groups; in the case of compounds, only responses that were compounds were accepted.

2.1.3.3. Results

Figure 1 shows the mean percentages of correct answers in the three lexical classes (overleaf).

Table 2 summarizes various analyses of variance performed on the data. A two-way within subject design with WORD CLASS and FREQUENCY as factors showed that although compounds seem to be harder to retrieve in this naming situation, the difference is not significant. Frequency, on the other hand, had a strong main effect. In average, subjects mobilized 36 frequent words (90% correct, out of 40 (15 + 15 + 10)), and 26.41 rare words (65% correct). This factor had a significant effect both in nouns and in verbs, while it had no significant impact on compounds. Age had no significant effect; although our sample was too small and unevenly distributed with respect to age, there was an observable increase from 67% mean word mobilization to 83% comparing children up to 10 years (n=4), and children over 10 years (10). (F 3.75, $p < 0.10$).

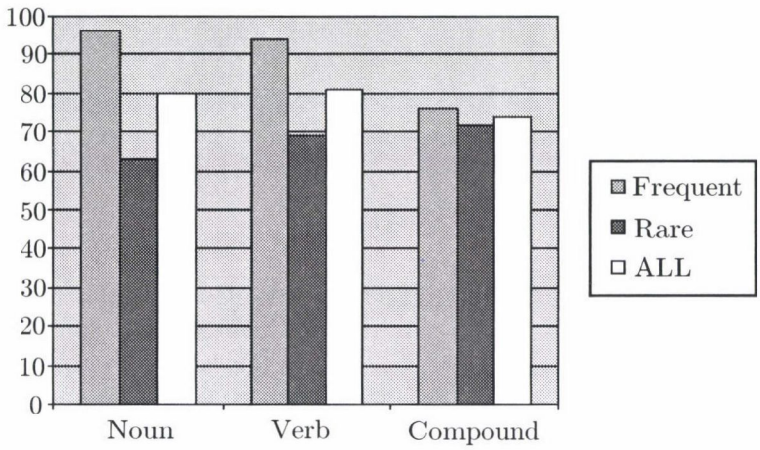

Fig. 1
Mean percentages of correctly named pictures

Table 2
Summaries of analyses of variance over percent of words correct in WMS children

EFFECT	F	Df	P
Word Class	2.53	2,24	n.s.
Frequency	9.56	1,12	0.01
F × Wclass	3.87	1,12	0.05
Nouns,Frequency	31.63	1,12	0.0001
Verbs,Frequency	25.79	1,12	0.0002
Compounds,Freq.	<1	1,12	n.s.

There were interesting age effects between Rare and Frequent words, as well as between word classes. To summarize it simply, the most remarkable age effects were observed in frequent compound words ($F=8.68$, $p < 0.001$), and this was responsible for the significant age effect in all frequent words, while in rare words, surprisingly, there was no age effect. Figures 2A and 2B summarize these differences. If we compare the upper and lower charts, it is apparent that while the effects are not significant (see Table 3), in rare words there seems to be an age related increase in nouns and verbs, while in more common items, age seems to be related to the more difficult compounds. (See Table 4 for a summary.) Our preliminary results suggest that there are characteristic frequency dependent effects in WMS children, and they seem to be related to grammatical complexity (reflected in compounds). The details of this relationship have to be worked out with more specific vocabulary studies.

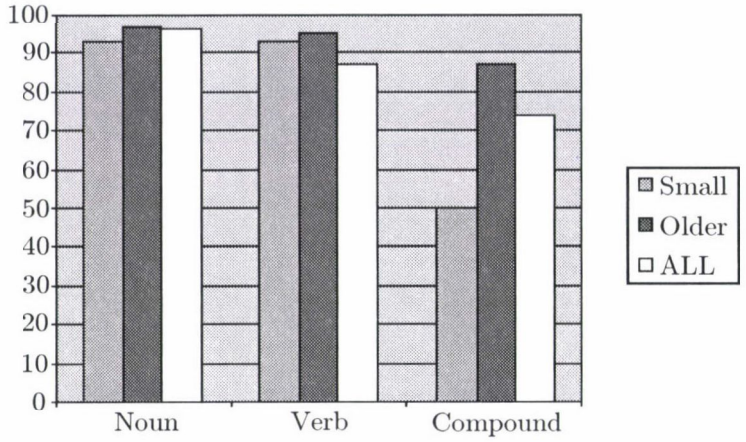

Fig. 2A
Correct word naming in frequent words as a function of age

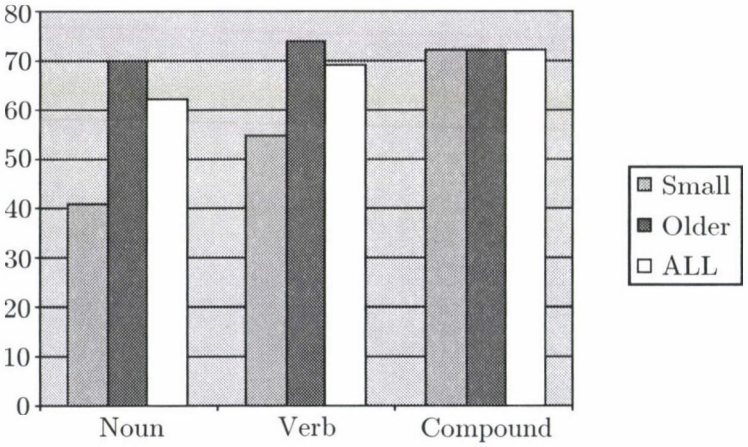

Fig. 2B
Correct word naming in rare words as a function of age

Table 3

Summaries of analyses of variance on the effects of age on percent of words correct

EFFECT	F	Df	P
FREQUENT WORDS			
Age	9.44	1,12	0.01
Word Class	14.87	2,12	0.0001
Word Class × Age	6.42	2,24	0.01
RARE WORDS			
Age	1.31	1,12	n.s.
Word Class	1	2,12	n.s.
Word Class × Age	1	2,24	n.s

Table 4

Summaries of age effects on percent of words correct

EFFECT	F	Df	P
FREQUENT WORDS			
Nouns	1.19	1,12	n.s.
Verbs	<1	1,12	n.s
Compounds	8.68	1,12	0.01
RARE WORDS			
Nouns	4.60	1,12	0.06
Verbs	2.16	1,12	n.s.
Compounds	1	1,12	n.s

2.2. Data from unimpaired children

Data from a control group of 7-year-old average children (n=21) is available on vocabulary measures. Figure 3 shows their results contrasted to WMS children over different lexical tasks.

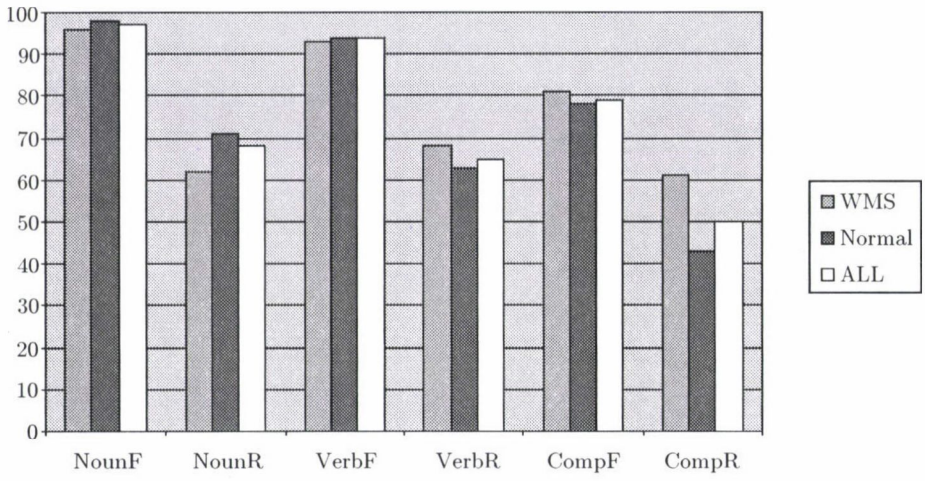

Fig. 3

Comparison of WMS and 7-year-old average children in the lexical tasks

In the overall analysis of variance comparing the two groups there were no across-the-board differences, the two means being 77 and 74 percent for WMS and normal children, respectively ($F < 1$, n.s.). At the same time, there was a strong Word class effect ($F_{2,66}=46.21$, $p < 0.0001$), accompanied by a strong Group x Word Class interaction ($F= 9.47$, $p < 0.0002$). Frequency had by far the largest effect ($F_{1,33}= 184.80$, $p < 0.00001$). Frequency had no interaction with Group ($F_{1,33}= 1.19$, n.s.) corresponding to our impression that frequency is an independent factor both in WMS children and in normals. Essentially, compounds are harder, and frequency has an impact on performance in both groups. However, WMS children seem to perform better on rare compound words compared to normal controls ($F_{1,33}=7.71$, $p < 0.001$), while in frequent compounds there is no such difference. Table 5 summarizes the significant differences within the normal group. Comparing Tables 2 and 5, it is apparent that in WMS children there is an interaction between word class and frequency (because frequency effects are attenuated in compounds), while in normal children compounds are clearly more difficult, and frequency effects are observable in all word classes.

Table 5
Analysis of variance over percent of words correct in normal 7-year-old children

EFFECT	F	Df	P
Word Class	54.73	2,40	0.00001
Frequency	320.62	1,20	0.00001
F × Word Class	1.62	2,40	n.s

2.3. Relationships to measures of short term retention

In our study two general (possible) measures of verbal memory were used: number span and non-word repetition. Interestingly enough, in our WMS sample the cruder measure of number span proved to be a better predictor of vocabulary level than the theoretically more promising non-word repetition. We shall be trying to cross-tabulate this data with measures of non-verbal retention in later analyses; for the moment only some rough comparisons shall be presented. We compared lexical performance of children below and above the median on both measures of verbal short-term memory. In the case of number span this meant groups with a span of 3 and below versus groups of 4 and more, with 8 and 6 members, respectively. In the case of non-word repetition the cutpoint was 4, with 7 and 8 children in the two groups. As Figure 4 shows, higher number span was associated with knowing more rare words.

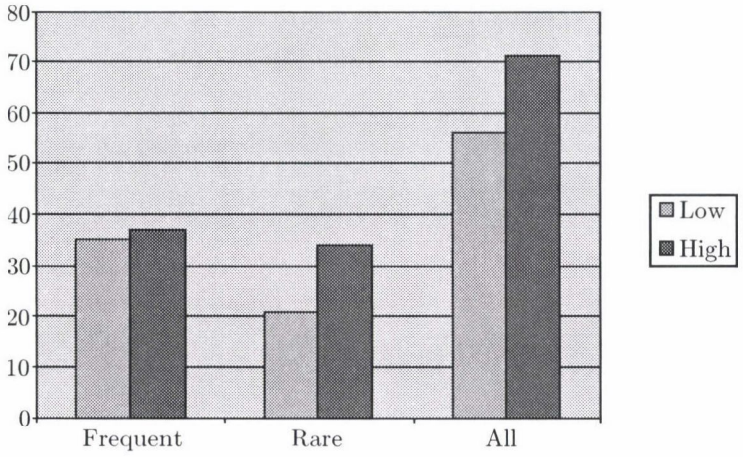

Fig. 4
Effects of number span on lexical knowledge

The summary of a series of comparisons shown in Table 6 indicates that the effect of non-word repetition was only significant in the case of rare nouns. However, with digit span, a higher performance was associated with knowing more rare words both for nouns and for compounds. Further studies will decide whether this is related to the overall level of intelligence, or whether the high verbal subgroups also have better overall memory functions. Some preliminary multivariate analyses are presented below to indicate the direction our research might take.

Table 6

A summary of comparions of vocabulary with number span and non-word repetition

INDICATOR	NUMBER SPAN EFFECT	NONWORD EFFECT
NounF	1.62, n.s.	<1, n.s.
NounR	7.30, 0.02	4.65, 0.05
VerbF	9.32, 0.01	· 1, n.s
VerbR	3.64, 0.10	<1, n.s
CompF	<1 n.s.	2.26, b.s.
CompR	6.25, 0.05	<1, n.s
Frequent	1.35, n.s.	1.57, n.s.
Rare	13.13, 0.005	<1, n.s
All words	10.58, 0.005	<1, n.s

2.3.1. Predictors of word knowledge

Stepwise regression analyses taking different summary indices of lexical knowledge as dependent variables showed that for rare words digit span was the strongest predictor while for frequent words, age. Table 7 summarizes these equations. In all of the analyses age, digit span, and nonword repetition were taken as predictors. Although nonword repetition performance is a weaker predictor (β = 0,39) than digit span, its correlation with rare words is moderate even if age effect was partialed out (r 0,5, $p < 0.07$).

Table 7

Stepwise regressions solutions for different vocabulary measures

DEPENDENT VARIABLE	REGRESSION COEFFICIENT	EQUATION	FIRST R	SECOND R IMPROVEMENT
All words	0.79	33.88 + 1.14 age + 3.83 span	Span 0.66 F=9.06	Age 0.13 F=5-79
Rare	0.65	1.82 + 4.2 span	Span 0.65 F= 8.59	—
Frequent	0.75	29.18 + 0.51 age	Age 0.75 F=15.26	—

2.4. Multivariate comparison of relationships in normal and WMS children

We also made some pilot multivariate comparisons to see if the internal relationships between different subgroups within vocabulary are the same in normal and WMS children. In 7-year-old normal children the correlation matrix shown in Table 8 was obtained. Table 9 shows the same matrix for WMS subjects. It is apparent that in WMS children, vocabulary measures have a denser correlation structure. The bold numbers in Table 9 indicate those correlations which seem to be higher in the WMS group compared to isomorphic ones in normal children.

Table 8

Correlation matrix of lexical measures in normal 7 year olds

	nounf	**nounr**	**verbf**	**verbr**	**compf**	**compr**
nounf	1.0000					
nounr	−0.0000	1.0000				
verbf	0.2089	−0.0536	1.0000			
verbr	0.1506	0.3434	0.0959	1.0000		
compf	−0.1044	0.3192	−0.1181	0.2271	1.0000	
compr	0.1105	−0.0154	−0.0391	0.2594	0.4863	1.0000

Table 9

Correlation matrix of lexical measures in WMS children

	nounf	**nounr**	**verbf**	**verbr**	**compf**	**compr**
nounf	1.0000					
nounr	0.2815	1.0000				
verbf	0.1338	**0.7235**	1.0000			
verbr	0.0919	**0.7852**	**0.6529**	1.0000		
compf	0.1571	**0.7712**	0.4758	**0.7942**	1.0000	
compr	0.3822	**0.8419**	**0.7795**	**0.6934**	0.6850	1.0000

Preliminary factor analyses support this impression: as Table 10 shows, while there are 3 unrotated factors in normal children (the two stronger ones shown in the table), in WMS children we find only one, with a much higher proportion of variance explained.

Table 10

Unrotated factor loadings for principal components of the memory indices in the two groups

	NORMAL 7-YEAR-OLDS		WMS CHILDREN
VARIABLES	RARE	FREQUENT	VOCABULARY
NounFrequent	0.089	0.758	0.316
NounRare	0.565	−0.039	0.940
VerbFrequent	−0.080	0.728	0.813
VerbRare	0.661	0.348	0.878
CompFrequent	0.786	−0.290	0.839
CompRare	0.668	0.016	0.920
Variance explained	1.835	1.312	3.966

In line with these impressions, after rotation, in WMS children the single overwhelming lexical factor remained the one with rare nouns having the highest loading (0.940), while in normal children the three rotated factors were Compounds, with the two compound words having a loading of 0.735 and 0.924, Rare words with rare nouns having the highest loading (0.906) and Frequent words with frequent nouns loading 0.773, and frequent verbs with a loading of 0.719.

3. Morphological development

The issue of the effect of frequency and short term memory span was raised again in a morphology task tapping affixation patterns in WMS children. This task contrasted regular versus irregular inflectional forms on the one hand, and frequent versus infrequent items on the other.

3.1. Materials

32 picture pairs were used in this experiment, those of Pléh et al. (1994), complemented by new picture pairs to adjust the test to our question concerning frequency effects in regular and irregular suffixation. The first picture of each pair shows an object, the second one is supposed to elicit either its accusative or plural form. The test had 4 items is each of the 3 regular and 4 irregular classes, 2 frequent and 2 rare, based on Füredi Kelemen (1989).

Table 11

Examples of stimuli used in the morphology task

	EXAMPLE	
STEM CLASS	FREQUENT	RARE
1. Epenthetic n 104	majom–majmok 'monkey monkey acc.'	bagoly–baglyot 'owl owl acc.'
2. Lowering n 71	hal halak 'fish fish pl.'	sál sálak 'scarf–scarf acc.'
3. Shortening n=222	kenyér–kenyerek 'bread bread pl.'	bogár–bogarak 'beetle–beetle pl.'
4. *v*-inserting	kő követ 'stone–stone acc.'	távcső–távcsövet 'telescope–telescope acc.'
5. 'Low V'-final	kutya–kutyát 'dog dog acc.'	teve tevék 'camel camel pl.'
6. C-final	asztal–asztalok 'table table pl.'	pingvin–pingvinek 'penguin–penguin pl.'
7. 'Nonlow V'-final	cipő cipőt 'shoe shoe acc.'	hattyú hattyút 'swan swan acc.'

3.2. Procedure

This task was carried out on the same subject pool as the vocabulary task. Participants were tested individually again. They were given the pictures one by one by the experimenter, the one depicting an individual object shown first from each pair. After providing the name for the object, they were shown the second picture from the pair, and were asked questions prompting either a plural ("What are these?") or an accusative ("What is the boy eating?") forms. Responses were tape-recorded; there was no time limit on the response of the subject. The independent variables were the stem type and the frequency of the word, the dependent variable was the correctness of the response. A response was coded as correct if it was properly inflected; it was considered incorrect if it was overregularized or unmarked.

3.3. Results

Figure 5 shows that, in accordance with previous observations, WMS children seem to overgeneralize exceptional items (see previous research on the issue in Hungarian: Lukács–Pléh 1999; Lukács to appear).

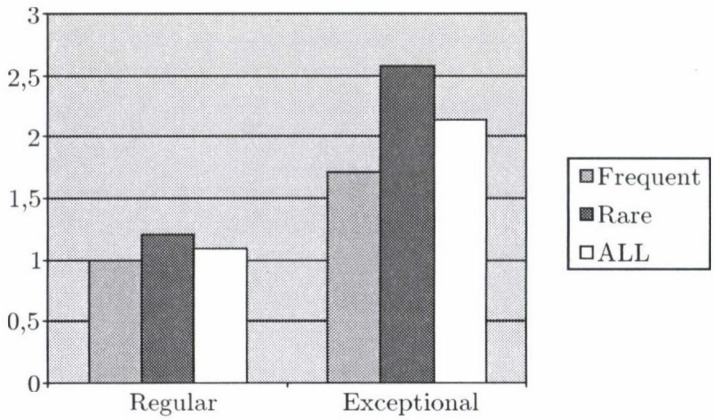

Fig. 5

Overall differences in errors between regular and exceptional nominal stem classes

In a two way analysis of variance, regularity had a significant main effect ($F_{1,13} = 5.46$, $p < 0.05$), while the frequency effect was not significant ($F_{1,13} = 2.13$,

n.s.). Table 12 summarizes the results of the analyses performed over the different subtypes of regulars; Table 13 summarizes results on irregulars.

Table 12

Summary of item frequency related differences in regulars

STEM TYPE	FREQUENT	RARE	F	p
Low V	0.46	0.30	<1	n.s.
Nonlow V	0.23	0.08	<1	n.s.
Consonant	0.23	0.61	4.45	0.06.

Table 13

Summary of item frequency related differences in exceptionals

STEM TYPE	FREQUENT	RARE	F	p
Shortening	0.69	0.61	<1	n.s.
Epenthetic	0.60	1.00	<1	n.s.
Lowering	0.15	0.31	1.34	n.s.
v-inserting	0.53	0.84	5,21	0.05

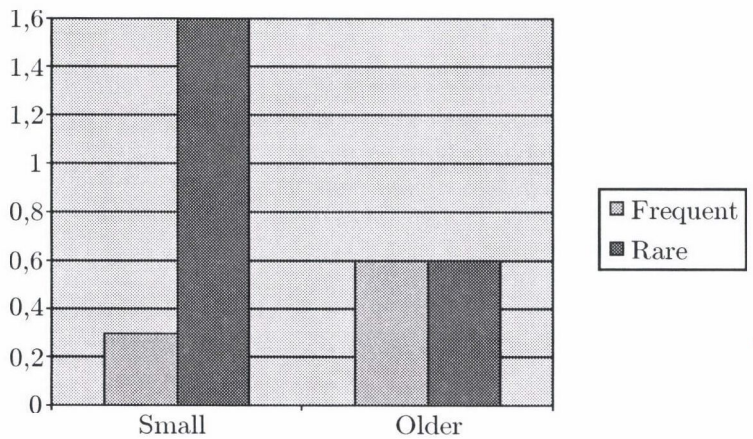

Fig. 6

Overgeneralizations in *v*-stems as a function of frequency and age

Thus, interestingly enough, overgeneralizations also appear with one regular class, namely, in consonant-final stems. In irregulars, however, beside the general effect of regularity there is a clear item effect in *v*-inserting stems. However,

as Figure 6 shows, this is also related to age: younger WMS children (under 10 years) are especially sensitive to overgeneralizations here. Some interesting relationships hold between short-term memory measures and morphologiocal performance. Table 14 shows that low-span children made more morphological errors both on regulars and irregulars. This implies that working memory capacity is related to grammatical proficiency as well.

Table 14
Effects of digit span differences on morphological errors

STEM TYPE	LOW SPAN	HIGH SPAN	F	p
Regular	2,75	0,40	5,72	0,05.
Exceptional	6,25	1,60	6,61	0,05
All	9,0	2	8,83	0.01

4. Discussion

Results of the three tasks point to the importance of the role of phonological short term-memory both in vocabulary acquisition and in grammatical development. Regarding the three issues raised in designing the experiments, our results gave the following answers. Vocabulary size is related to the capacity of verbal short-term memory: higher working memory span predicts larger vocabulary. This is especially true for rare words. This implies that regarding one of the debated issues in the WMS literature, there is a frequency sensitivity in WMS vocabulary. We might postulate that this frequency sensitivity is mediated by working memory: children with higher working memory span learn less frequent words more easily. This complies with the observation that WMS people often produce unusual and sophisticated words without knowing their meaning: these might be stored as a pure phonological string. The less expressed effect of working memory with frequent words might be due to a ceiling effect and thus little variance of result. Our future studies using a nonword learning paradigm might clarify this relationship.

In the morphology task we obtained the usual superiority of regulars over irregulars. Within this general pattern, moderate frequency sensitivity was observed in some stem types (one regular and one exceptional). More interestingly, however, performance on the morphology task was also related to working memory span. It is too early to draw conclusions but this may suggest that grammatical proficiency bears some intricate relation to work-

ing memory: this might take the form of performance limitations or lack of grammatical competence. This is to be clarified using online processing tasks.

As a general implication of our results, we might suggest that some of the non-homogeneity of WMS children on cognitive and behavioral measures (emphasized by Jarrold et al. 1998; Bellugi et al. 2000) might reduce, at least in linguistic aspects, to differences in verbal working memory capacity. This suggestion is supported for example by the fact that working memory differences remain after age effects are controlled, and in some measures performance is more dependent on memory than on age. Our further studies broadening the age-range within our sample might help to articulate this suggestion.

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CLINICAL EVIDENCE OF SEPARATE NEURONAL SYSTEMS FOR PHONEMIC, SEMANTIC, AND ACTION INFORMATION*

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Abstract

In this study, we investigated different aspects of semantic-lexical representation in patients with schizophrenia. The patients were classified as having prominent thought disorder (TD) characterized by loosened associations and negative symptoms (NS) characterized by poverty of speech. The test battery included fluency measures (phonological, semantic, and action), picture naming/categorization, and feature retrieval. The schizophrenia patients as a group showed a generalized word retrieval deficit, together with spared picture naming and impaired picture categorization/feature retrieval. The patients with TD were especially impaired in the semantic fluency and picture categorization tests. The patients with NS demonstrated marked dysfunctions in the action fluency test and they retrieved inappropriately fewer features in the case of man-made tools. These results support the hypothesis that TD is accompanied by a disturbed semantic system, whereas in patients with NS the impairment of the supervisory/executive system is the most dominant. The lexical size is normal in mildly affected schizophrenia patients. Our study further demonstrates that the representation of real-world knowledge is not restricted to a single cognitive module or memory function. Instead, an integrated operation of a large-scale neuronal network must be taken into consideration.

1. Introduction

Advances in cognitive neuroscience provided a novel opportunity to understand how knowledge is represented in the brain. This new approach fertilized both theoretically and clinically oriented psycholinguistic research, allowing a wider integrative interpretation and multidisciplinary applications. Figure 1 shows four dissociable cognitive domains with potentially separate but overlapping neuronal systems, each participating in the storage, organization and management of real-world knowledge (Schacter et al. 2000). The perceptual

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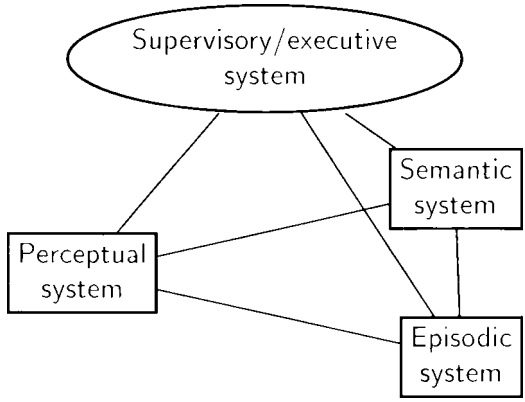

Fig. 1
The structure and organization of perceptual, memory, and supervisory/executive systems.

representation system is responsible for the processing and storage of physical features of instances such as form, colour, motion, and sound. In the visual domain, this includes the ventral (occipito-temporal) and dorsal (occipito-parietal) pathways related to the analysis of form/color and motion/spatial location, respectively (Van Essen et al. 1992). The episodic memory system is devoted to store personally experienced episodes and events with a well-defined time and space context. It has been assumed that an active interaction between association neocortex and hippocampal complex is essential for the establishment of episodic memory traces. As a non-personal type of representation, semantic memory refers to a general knowledge about facts, concepts, words, and their meanings. The neuronal substrate of semantic memory consists of a complex network including the left inferior frontal, left temporal and parietal areas (Nyberg–Tulving 1996; Squire–Zola 1998; Graham et al. 2000). Finally, these systems are coordinated and regulated by a supervisory/executive system, mainly localized in the frontal lobes. This system is related to attentional functions, short-term active maintenance of behaviorally relevant information (working memory), and intentional encoding and retrieval (Baddeley 1992; Buckner et al. 1999; Smith–Jonides 1999).

For the purposes of neurobiologically oriented psycholinguistic research, it is of particular interest to understand the relationship between these systems. To illustrate the significance of this strategy, let us take a concrete example. Knowing an animal mainly requires the representation of its physical features

such as form, color, and texture. In addition, animals have names (phonological and orthographic code), can be sorted into categories (e.g., birds, sea creatures, mammals) and have certain associative properties (e.g., place of occurrence, dangerous, neutral or useful). The modality-specific principle of semantic organization posits a frequently cited (and criticized) opinion that in the case of man-made tools associative properties related to their functions play a more important role than the perceptual features (Farah et al. 1989; Martin et al. 2000, but see Caramazza Shelton 1998; Caramazza 2000). These are usually expressed in verbs or action names (e.g., *hammer to drive a nail*). Finally, if any of these materials must be used in problem-solving situations, which require active retrieval, maintenance and purposeful re-organization of information, the participation of the supervisory/executive system gains a central role.

There are two basic methods for the investigation of interactive organization of perceptual, semantic, and supervisory systems and their subdomains. The first includes classic methods of experimental neuropsychology, in which patients with circumscribed brain lesions are studied in order to find parallels between brain structures and cognitive functions. The second is based on recent developments in neuroimaging techniques allowing a relatively accurate measurement of regional cerebral brain activity associated with specific cognitive functions. In this study, we assessed different aspects of semantic and lexical organization in a group of patients with schizophrenia. Schizophrenia is a complex clinical entity with multiple signs and symptoms (Black Andreasen 1999). One of these dimensions, the so-called formal thought disorder (TD), may be directly related to semantic and lexical functions. TD is characterized by loosened associations, loss of the goal of speech, loss of meaning, and abnormal reasoning. The verbal communication of schizophrenia patients with TD seems to be illogical, aimless, incoherent, and sometimes absurd. At the same time, the so-called negative symptoms (NS) are in connection with the pathology of supervisory/executive system. Schizophrenia patients with prominent NS show marked difficulties in organizing and sequencing complex purposeful behavior requiring planning and problem solving. Loss of motivation, slowness of thinking, and withdrawal are common in patients with NS (Black Andreasen 1999).

Besides the standardized evaluation of TD and NS, a variety of tasks were administered to each participant. These included fluency measures, picture naming, categorization, and feature retrieval. In the fluency tests, subjects are asked to list as many words as they can during a limited period of time. For a successful performance, subjects must have enough items stored in their semantic system and must have a sufficient degree of capacity to retrieve them.

Therefore, fluency tests are related to both semantic-lexical and supervisory/executive functions. In the case of semantic fluency, which includes the retrieval of words from a predefined category, the functioning of semantic memory is stressed, whereas in the case of action fluency (listing verbs) the supervisory/executive system is predominantly burdened (Piatt et al. 1999a). Picture naming is related to the activation of the appropriate phonological code and also the automatic recruitment of wider associative knowledge (Martin et al. 2000). This latter aspect is specifically targeted by picture categorization and feature retrieval.

2. Methods

2.1. Participants

Seventeen patients with the diagnosis of schizophrenia (11 men and 6 women) and 15 healthy control subjects (10 men and 5 women) participated in the study. The diagnosis was based on the standard criteria of Diagnosis and Statistical Manual of Mental Disorders, fourth edition (DSM-IV) (American Psychiatric Association 1994). The clinical symptoms were rated using the Brief Psychiatric Rating Scale (BPRS), which assesses 18 clinical symptoms in a 1 7 severity scale (Overall Gorham 1962). Inclusion criteria were stabilized clinical state: absence of hallucinations, adequate orientation, and absent or minimal delusional thoughts. Patients were classified as having formal thought (TD) disorder if they scored above 3 in the thought disorganization item of the BPRS ($n = 6$), and were classified as having prominent negative symptoms (NS) if they achieved a total score of 9 or above in the 3 negative symptoms items of the BPRS ($n = 8$). Schizophrenia patients with less severe TD and NS were labeled as nTD and nNS, respectively. The three groups were comparable concerning age (controls: 34.4 years (SD = 11.8), TD: 32.7 years (SD = 11.7), NS: 35.1 years (SD = 9.4)) and education (controls: 14.5 years (SD = 3.4), TD: 11.0 (SD = 2.5), NS: 13.0 (SD = 3.5)). The mean chlorpromazine-equivalent dose of antipsychotic drugs was 305.9 mg/day (SD = 203.0).

2.2. Fluency tests

For the assessment of phonological fluency, the Controlled Oral Word Association Test was used (Benton Hamsher 1976). In this test, subjects are asked to retrieve as many words as possible beginning with letters *F*, *A*, and *S* for 1 min each. Participants were requested to avoid proper names and places.

The dependent measure was the mean number or words generated over 1 min ($\frac{F+A+S}{3}$). In the semantic fluency test, the task was to generate words belonging in the category of animals and furniture for 1 min. The dependent measure was the mean number or words generated over 1 min ($\frac{\text{category A+category B}}{2}$). Errors (repetitions and words outside the categories) were excluded (Randolph et al. 1993). In a similar manner, participants were asked to enlist verbs during a 1-min testing period (action fluency) (Piatt et al. 1999a).

2.3. Object naming and categorization

We used color photographs of 10 common objects scanned from books and newspapers. The objects could be divided into five categories (animals, vehicles, tools, plants, and indoor objects), two objects for each category. In the naming task, subjects were asked to name each item. In the categorization test, participants were informed that the objects can be paired according to their category membership in a similar sense as chairs and tables both belong in the category of furniture. After this instruction, the task was to categorize the photographs. In the naming test, the dependent variable was the number of correctly named items (max: 10), whereas in the categorization task statistical analysis was conducted on the number of categories completed (max: 5). The naming and categorization tasks were not time-limited.

2.4. Definitions

In this test, subjects were asked to give characteristic features and facts about each object (e.g., *yellow* for *banana* or *to drive a nail* for *hammer*). One minute was allowed for each object. The pictures of objects were not presented during the test. The dependent measure was the number of correctly listed features, which was analyzed separately for animate and man-made items.

3. Results

3.1. Fluency tests

Exploratory analyses including a group (controls vs. patients with schizophrenia) by type of fluency analysis of variance (ANOVA) revealed main effects of group ($F(1,30) = 33.61$, $p < 0.0001$) and task type ($F(2,60) = 12.41$, $p < 0.0001$). This indicates that the patients with schizophrenia were impaired in each fluency test, and semantic fluency was easier than phonological and action fluency (Tukey's HSD test, $p < 0.01$) (Figure 2a).

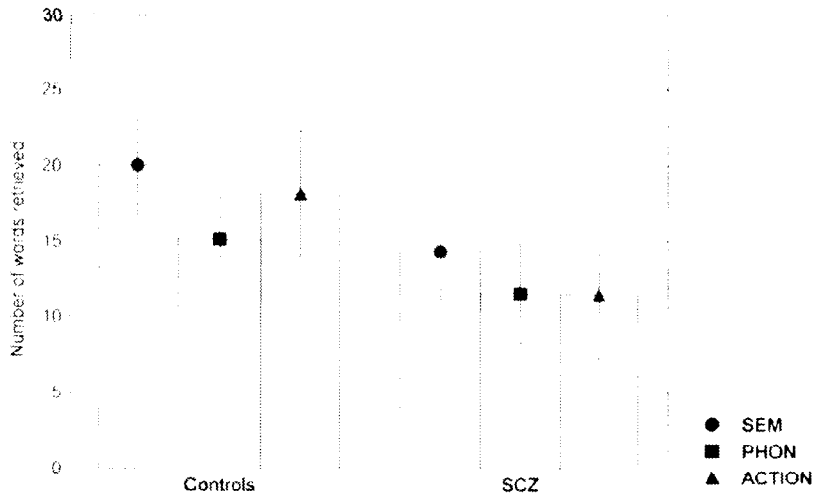

Fig. 2a

Mean number of words retrieved in the semantic (SEM), phonological (PHON) and ACTION fluency tests in the control subjects and schizophrenia patients (SCZ). Error bars indicate standard deviations; boxes indicate standard errors.

A further group (controls vs. TD patients vs. nTD patients) by type of fluency (phonological vs. semantic) ANOVA demonstrated main effects of group ($F(2,29) = 10.63$, $p < 0.001$) and task type ($F(1,29) = 35.64$, $p < 0.0001$). The two-way interaction was also significant ($F(2,29) = 3.95$, $p < 0.05$). Post hoc Tukey's HSD tests indicated that beyond a generalized deficit in the patients with schizophrenia, the TD patients specifically performed worse in the semantic fluency test as compared with the nTD patients ($p < 0.05$). Similar effects were not observed in the case of phonological fluency, and there was no group by task type interaction when the task type factor included phonological and action fluency ($p > 0.2$). This suggests that the schizophrenia patients with TD exhibited a marked deficit in the semantic fluency test that exceeded the generalized retrieval dysfunction affecting each type of fluency task (Figure 2b).

A group (controls vs. NS patients vs. nNS patients) by task type (phonological vs. semantic fluency) ANOVA indicated main effects of group ($F(2,29) = 13.32$, $p < 0.005$) and task type ($F(1,29) = 41.98$, $p < 0.0001$). The two-way interaction was not significant, similarly to the case when task type factor included phonological and action fluency ($p > 0.1$) (Figure 2c).

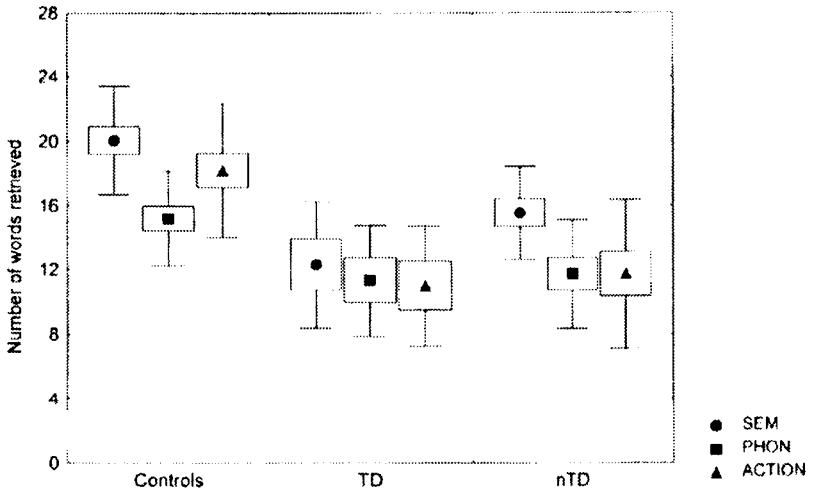

Fig. 2b

Mean number of retrieved words in the controls, in the schizophrenia patients with thought disorder (TD), and in the schizophrenia patients without thought disorder (nTD).

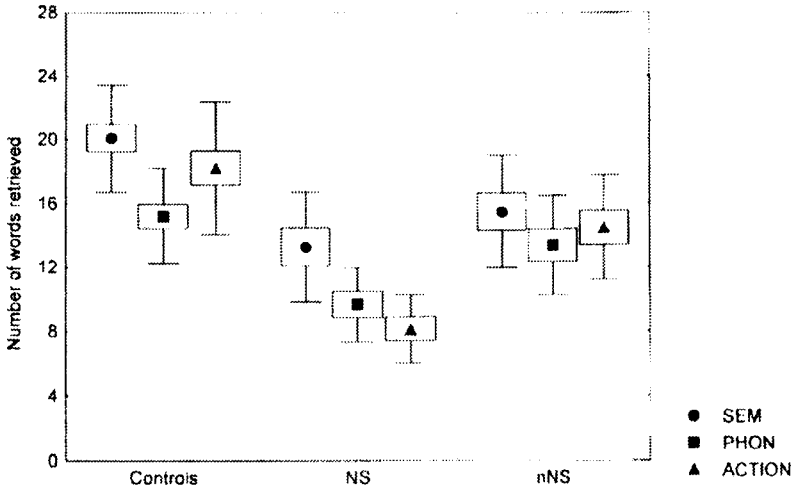

Fig. 2c

Mean number of retrieved words in the controls, in the schizophrenia patients with negative symptoms (NS), and in the schizophrenia patients without negative symptoms (nNS).

To further explore possible task-specific alterations in schizophrenia patients with TD and NS, baseline retrieval dysfunctions were controlled by calculating ratios for semantic (S) and action output (A): S = number of words retrieved in the semantic fluency test / (number of words retrieved in the semantic fluency test + number of words retrieved in the phonological fluency test); A = number of words retrieved in the action fluency test / (number of words retrieved in the action fluency test + number of words retrieved in the phonological fluency test). This analysis revealed that the TD patients generated less words in the semantic fluency test corrected for baseline abnormalities ($S = 0.52, SD = 0.04$) as compared with the controls ($S = 0.57$, $SD = 0.05$) ($t(19) = 2.20$, $p < 0.05$) and with the nTD patients ($S = 0.54$, $SD = 0.05$) ($t(19) = 2.29$, $p < 0.05$). In a similar manner, the NS patients recalled fewer words in the action fluency test corrected for baseline abnormalities ($A = 0.46$, $SD = 0.08$) as compared with the controls ($A = 0.54$, $SD = 0.09$) ($t(19) = 2.14$, $p < 0.05$). It is notable that neither the nTD nor the nNS patients showed similar effects ($p > 0.5$), suggesting that in their case semantic and action fluency deficits did not exceed baseline retrieval dysfunctions, respectively.

3.2. Object naming and categorization

The patients with schizophrenia exhibited normal performance in the picture naming task ($p > 0.3$), whereas they were able to complete less categories than the controls ($t(30) = 2.26$, $p < 0.05$) (Figure 3, Figure 4a). A one-way ANOVA (controls vs. TD patients vs. nTD patients) demonstrated a significant group effect ($F(2, 29) = 7.44$, $p < 0.01$), which is caused by the impairment of the TD patients in comparison with the controls and nTD patients ($p < 0.05$, Tukey's HSD test). The nTD patients performed similarly to the controls ($p > 0.3$) (Figure 4b). Another ANOVA (controls vs. NS patients vs. nNS patients) also yielded a group effect ($F(2, 29) = 3.38$, $p < 0.05$), but post hoc comparisons were able to demonstrate only a tendency for a lower categorization performance in the NS group in comparison with the controls ($p = 0.07$) (Figure 4c).

3.3. Definitions

A group (controls vs. patients with schizophrenia) by object type (features for animate items vs. man-made items) ANOVA revealed that the patients were able to retrieve less features than the controls ($F(1, 30) = 11.40$, $p < 0.01$). However, the effect of object type and the interaction remained non-significant ($p > 0.5$) (Figure 5a). Similar results were obtained when the analysis was

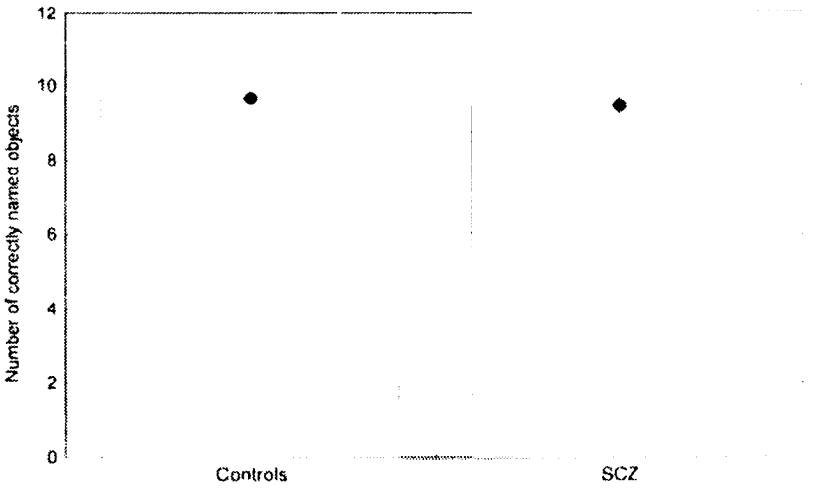

Fig. 3

Mean number of correctly named pictures in the control subjects and in the patients with schizophrenia (SCZ). Error bars indicate standard deviations; boxes indicate standard errors.

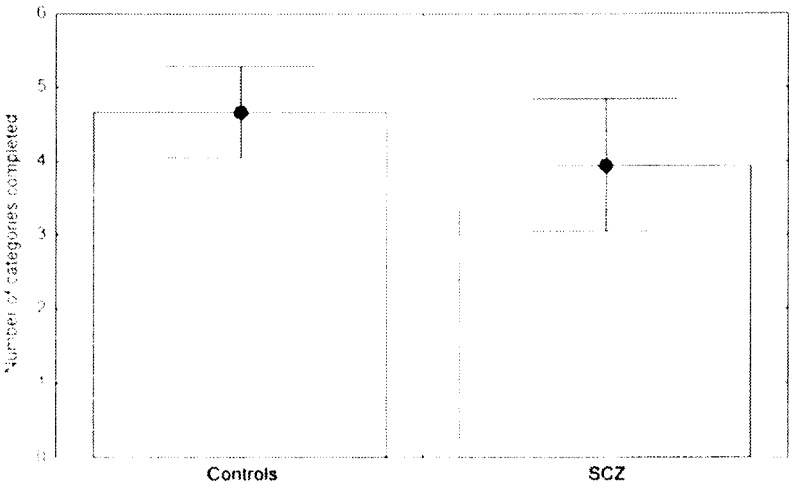

Fig. 4a

Mean number of categories completed in the control subjects and in the patients with schizophrenia (SCZ).

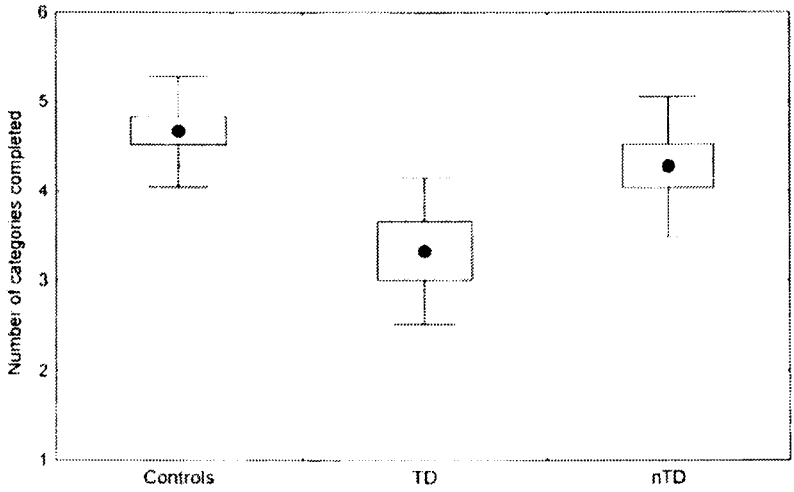

Fig. 4b

Mean number of categories completed in the controls, in the schizophrenia patients with thought disorder (TD), and in the schizophrenia patients without thought disorder (nTD).

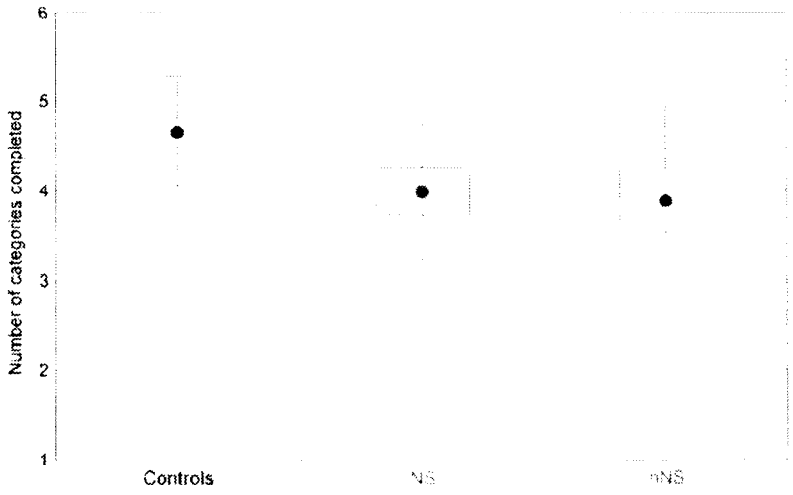

Fig. 4c

Mean number of categories completed in the controls, in the schizophrenia patients with negative symptoms (NS), and in the schizophrenia patients without negative symptoms (nNS). Error bars indicate standard deviations; boxes indicate standard errors.

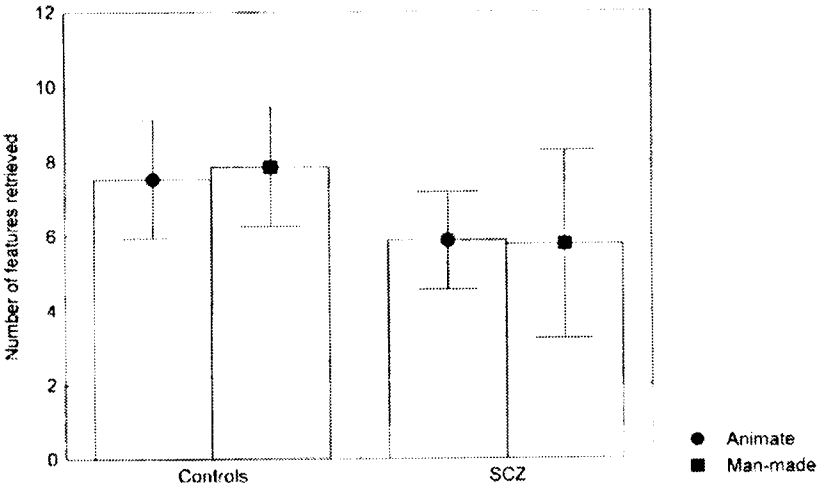

Fig. 5a

Mean number of retrieved features in the control subjects and in the patients with schizophrenia (SCZ).

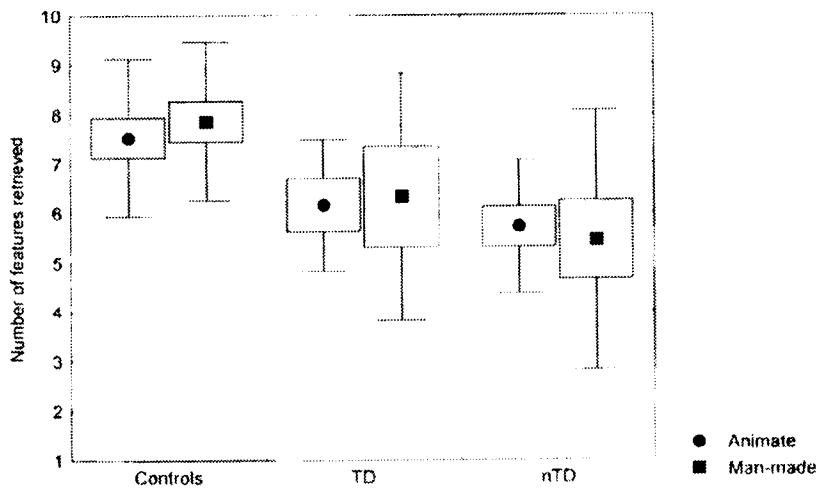

Fig. 5b

Mean number of retrieved features in the controls, in the schizophrenia patients with thought disorder (TD), and in the schizophrenia patients without thought disorder (nTD).

focused on the TD vs. nTD comparison ($F(2, 29) = 5.98$, $p < 0.01$) (Figure 5b). In contrast, when the ANOVA included NS vs. nNS schizophrenia patients, there was a significant group by object type interaction ($F(2, 29) = 4.34$, $p < 0.05$) in addition to the significant main effect of group ($F(2, 29) = 12.68$, $p < 0.001$). Detailed follow-up analysis using Tukey's HSD tests demonstrated that the NS patients were more impaired in the case of man-made items ($p < 0.001$) than in the case of animate items ($p < 0.01$) in comparison with the controls. The nNS patients showed no such deficits ($p > 0.2$) (Figure 5c).

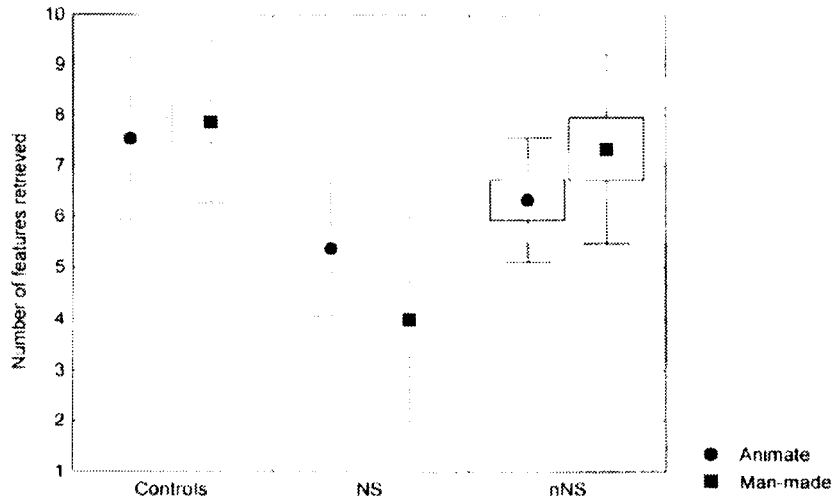

Fig. 5c

Mean number of retrieved features in the controls, in the schizophrenia patients with negative symptoms (NS), and in the schizophrenia patients without negative symptoms (nNS). Error bars indicate standard deviations; boxes indicate standard errors.

4. Discussion

4.1. Summary of the results

It is a crucial point to consider TD and NS as two extreme forms of verbal behavior: in the case of TD there is a disorganization and loosening of speech, while in the case of NS we must face with a poverty and slowness of verbal expression (alogia) (Black Andreasen 1999). All patients, regardless of their

symptoms, showed a generalized deficit in recalling words, which may point to a non-specific mental control disability. Beyond this generalized deficit, the patients with TD exhibited a marked disorder in the semantic condition, which means that they were especially impaired when they were requested to retrieve items from specific categories rather than according to phonological cues (Figure 2b). This suggests that TD may reflect the abnormality of semantic, but not phonological representation (Spitzer 1997). It is more problematic to interpret why the schizophrenia patients with NS were more impaired in the action fluency test, that is, why they were able to generate less verbs when controlled for baseline fluency dysfunctions (Figure 2c). As we will see later, neuroanatomical considerations may shed light on this seemingly unexpected finding.

The patients with schizophrenia were able to correctly name the objects (Figure 3), although they showed a significant categorization deficit and listed less features (Figures 4 5). The most parsimonious explanation of this pattern of performance is that they had sufficient functional capacities for the visual analysis of pictures and for the appropriate word retrieval, whereas their conceptual-categorical knowledge was disrupted. The categorization deficit appeared to be relatively specific for TD. It is of particular interest that the patients with NS had a more severe deficit when they were asked to enlist features of man-made tools than in the case of animate items. Again, similarly to the action fluency anomalies of NS patients, this phenomenon is hard to understand at the phenomenological level. However, if we consider the possibility that functional-associative features (expressed by verbs) are more important for the representation of man-made tools than for the representation of living things, it becomes plausible why patients with poor action fluency show definition abnormalities in the case of man-made objects but not in the case of living things (Martin et al. 2000).

In summary, loosening of associations and verbal incoherence is associated with semantic memory impairments as reflected by semantic fluency and categorization abnormalities. In contrast, poverty and reduction of verbal expression is related to impairments in action (verb) retrieval and feature definition for man-made tools.

4.2. The semantic system in schizophrenia

Our results are consistent with previous studies using fluency tests in schizophrenia (Allen et al. 1993; Joyce et al. 1996; Feinstein et al. 1998; Gourovitch et al. 1997; Goldberg et al. 1998). A general conclusion can be that NS are

accompanied by a severe executive (retrieval) deficit, whereas TD is associated with semantic memory anomalies. Measuring brain activity with positron emission tomography (PET), Gourovitch et al. (2000) found that word retrieval activated a distributed system including the anterior cingulate and the left inferior-lateral prefrontal cortex near to Broca's area. Furthermore, during the semantic fluency test subjects showed activation in the left temporal cortex, which is thought to be associated with the storage of semantic knowledge. In contrast, inferior left prefrontal and temporoparietal cortex, both linked to phonological processing, were activated more in the phonological fluency test than in the semantic fluency task (see also Mummery et al. 1996). Consistently with these considerations, the neurobiological basis of NS includes the pathology of the frontal-subcortical system, while left temporal abnormalities are often related to TD (Elliott Sahakian 1995; Kéri Janka 2001). A new observation is that action fluency is markedly impaired in NS patients, which also raises the possibility that the frontal-subcortical system may play a crucial role in verb generation, while noun retrieval is centered on cortical areas with a more posterior (left anterior temporal) localization. Indeed, several lines of evidence from patients with focal brain lesions, Parkinson's disease, Alzheimer's disease and fronto-temporal dementia seem to support these assumptions (Zingeser Berndt 1990; Caramazza Hillis 1991; Damasio Tranel 1993; Cappa et al. 1998; Williamson et al. 1998; Hodges 2000).

However, it is necessary to emphasize the unique features of schizophrenic semantic impairments. In Parkinson's disease where the functioning of the frontal-subcortical system is compromised, one can observe a severe generalized retrieval deficit and a disproportionate disparity in action fluency tests (Piatt et al. 1999b). This pattern of performance closely resembles that seen in NS schizophrenia patients who also exhibit access dysfunctions. On the other hand, in Alzheimer's disease and in the temporal type of fronto-temporal dementia (semantic dementia) there is an extensive neuronal degeneration in the temporal cortex, which results in the degradation and loss of semantic information. These patients show reduced word number and naming/comprehension impairments (Cappa et al. 1998; Williamson et al. 1998; Hodges 2000). The amount of semantic information is regularly normal in schizophrenia patients (with the exception of severe, chronic cases) as reflected by their normal naming performance and lexical size (Allen et al. 1993; McKay et al. 1996; Laws et al. 2000). In contrast, the relationship between the categories of stored items and their meanings is disorganized and anomalous, which is manifested clinically and experimentally as abnormal associations and poor semantic categorization performances, respectively (Shallice et al. 1991; Chen et al. 1994; Paulsen

et al. 1996; Aloia et al. 1996). Although in the feature retrieval test, the TD patients performed comparably with the nTD participants, we observed numerous inadequately retrieved items (e.g., *used for electrical devices* in the case of *fork*). This suggests that the semantic network is abnormally activated in TD (Spitzer 1997). Our study raises, however, that semantic and executive systems can not be separated sharply in the representation and internal organization of real-world knowledge. Consistently with this idea, a PET studies indicated hypo-activation of the anterior cingulum and prefrontal cortex in patients with schizophrenia, whereas there was an abnormally increased activity in the superior temporal areas during verbal fluency tests (Frith et al. 1995; Curtis et al. 1998). The former is related to supervisory/executive impairments, whereas the latter may be related to the impairment of semantic abnormalities.

4.3. How is real-world knowledge represented in the brain?

The first well-designed report demonstrating category-specific deficits came from Warrington and McCarthy (1983) who demonstrated that patients with circumscribed brain damage to posterior cortical areas showed selective deficits in naming and comprehension of specific categories of objects. Further studies were able to replicate these findings, even when the difficulty, familiarity, and frequency of items to-be-named were controlled (for a recent review, see Caramazza–Shelton 1998). However, it is hard to see the exact locus of impairment from these early observations, providing relatively little information about separate systems for visual, associative, and word-specific processing. The original proposal of these pioneering studies supported the growth of the modality-specific principle of semantic organization. Recently, a series of studies using functional neuroimaging techniques were conducted to elucidate and refine this theory (Caramazza Shelton 1998; Martin et al. 2000). In these studies, brain activity was measured during the naming or passive viewing of pictures from different categories, during reading the names or answering questions about the objects. The results are intriguing. Tasks including animals activated lateral parts of the medial occipital areas, fusiform gyrus, and superior temporal sulcus. The occipital regions are related to detailed visual analysis, the fusiform gyrus to higher-level representation of form and verbal symbols, and the superior temporal sulcus to biological motion. On the contrary, tasks including man-made tools activated medial aspects of the fusiform gyrus, middle-temporal regions, and the dorsal prefrontal (premotor) cortex. These brain areas are related to the representation of form, motion, and actions related to the object (for a review, see Martin et al. 2000). These results show how categories of real-world knowledge are assembled from sensory features

such as form and motion. Additional areas may be involved in other domains of knowledge including time, space, frequency, and emotional/survival value (Damasio 1990). Somewhat differently, Spitzer et al. (1995) demonstrated specifically activated sites at the lateral fronto-temporal cortex when subjects named pictures from different categories.

There are two critical questions that must be clarified. The first is related to the classical problem of visual semantics (how objects look like) and associative semantics (how objects work), which latter is often considered as "more abstract" or "conceptual". The second issue concerns the problem whether words and pictures are represented separately or not. Vandenberghe et al. (1996) demonstrated a common neuronal network activated by both pictures and words in both visual and associative semantic tasks (left inferior frontal gyrus, left middle and inferior temporal gyrus, left fusiform gyrus, left parieto-temporal regions, left superior occipital gyrus, left hippocampus, and right cerebellum). It must be noted that the left hippocampus showed more activation in associative tasks. Picture-specific regions were located in the middle-occipital cortex, whereas word-specific regions were found in the inferior parietal, superior temporal, and inferior frontal regions (see also Chee et al. 2000).

Other authors suggested that intermediate regions exist in the brain that connect large-scale neuronal networks for perceptual-conceptual knowledge and word-specific regions (Damasio et al. 1996; Tranel et al. 1997). These regions may play a crucial role in retrieving names of specific instances. Damasio et al. (1996) found that patients with circumscribed lesions to the left posterior inferior-temporal exhibited naming deficits for animals. Similar effects were found for persons and man-made tools in the case of left temporo-polar and temporo-parieto-occipital lesions, respectively. It is important to note that these patients had naming deficits, while they exhibited intact knowledge about the properties of objects. Patients who had both compromised naming and knowledge exhibited a similar pattern of brain damage with a more extensive and bilateral distribution, which suggests that convergence zones for verbal codes and related knowledge share a distributed, partially overlapping neuronal network (Tranel et al. 1997). Indeed, in the ventral visual pathway there are multimodal language regions linking verbal symbols with their meanings (Büchel et al. 1998). However, the temporal lobes participate in multiple aspects of language. The left inferior temporal/fusiform regions are activated by semantic, pragmatic, and syntactic information. In addition, sentences requiring pragmatic processing preferentially activated the left superior temporal gyrus (Kuperberg et al. 2000).

A critical evaluation of the literature may point to some terminological weaknesses. Most importantly, terms such as "functional", "associative" or "conceptual" vs. "visual" and "perceptual" are rarely described exactly, which may lead to seemingly unresolved contradictions between different authors (Caramazza Shelton 1998; Martin et al. 2000; Caramazza 2000). It is highly likely that the general meaning of concepts consists of perceptual primitives that are bound together with time-space information, associative links with other items and categories, and emotional values (Damasio 1990). From the class of perceptual primitives, motion and related motor patterns may contribute more dominantly to "functional" characteristics. These are represented in dorsal cortical areas such as the occipito-parietal visual pathway and the dorsal prefrontal cortex. Man-made tools with their closely related motion and motor patterns are therefore associated with the dorsal system (Chao Martin 2000). This hypothesis is strongly supported by our finding that schizophrenia patients with NS were markedly impaired in verb generation and in the retrieval of features of man-made tools because these patients are especially impaired in tests investigating the dorsal system (Kéri Janka 2001).

4.4. Conclusions

Real-world knowledge is mediated by a complex neuronal network with partially overlapping domains. These include the classically defined perceptual, semantic, and supervisory/executive systems (Schacter et al. 2000). First of all, meaning can be dissociated from word-form knowledge, that is, knowing a word does not necessarily mean that the individual knows what it exactly means. Schizophrenia patients with TD show normal naming and mildly affected phonological fluency, while they are hardly able to retrieve objects from a semantic category, to actively categorize the objects and to enlist their attributes. It is perhaps more intriguing that knowing about man-made tools and their related verbs requires the dominant involvement of the supervisory/executive system outside the ventral temporal cortex linked to the representation of form, color, and their word-labels.

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BOOK REVIEWS

Ein Autor—zwei uralistische Werke verschiedener Art

1. Csepregi, Márta: Szurguti osztják chrestomathia [Surgutostjakische Chrestomathie]. Studia uralo-altaica Supplementum 6. Szeged 1998, 183 S.

Die Verfasserin überreicht dem Leser mit dieser Chrestomathie einen Teil ihrer eigenen Sammlung, wobei sie die Parole-, die Literatur- und die Folkloresprache (Prosa und Gesang) von Surgut gleichermaßen bekannt machen will (5, 10, 11). Bei einer solchen Zielsetzung müssen natürlich viele Probleme der Dialektologie und der Sprachgeschichte in einer die synchronen Verhältnisse erörternden Chrestomathie unberücksichtigt bleiben.

1.1. Die Einführung enthält kurze, aber informative Mitteilungen (6 11) über Zahl, Sprache und Dialekte der Ostjaken, über ihre Zweisprachigkeit (da Einsprachige nur unter den ungeschulten alten Leuten und Vorschulkindern zu finden sind). Das vorliegende Werk ist das erste, in dem die Forschungsgeschichte der Surgut-Mundarten zu finden ist.[1]

Um zu beweisen, daß in der ersten Hälfte des vergangenen Jahrhunderts die Vokalharmonie aus den Surgut-Mundarten verschwunden, in V Vj. aber erhalten geblieben ist, ist die logische Argumentation von Csepregi (11) für mich nicht überzeugend. Terëškin war doch Schüler von Steinitz. Falls die die Kollegen beeindruckende Persönlichkeit seines Professors auf ihn auch so wirkte wie auf die übrigen Schüler in Berlin (denen die Vorlesungen **Offenbarungen** waren), dann wußte er aus dem Unterricht, daß die Vokalharmonie in V Vj. existiert; demzufolge notierte er die östlichsten Mundarten in Kenntnis dessen, daß dort alles vokalharmonisch angeglichen wird, im Surgut-Gebiet zeichnete er aber das auf, was er selbst vernommen hat. Um die Frage richtig zu beantworten, müssen alle Aufzeichnungen aus V Vj. vom KT untersucht und systematisch geordnet werden, genau so wie das Surgut-Material.

[1] Kleinere Korrigenda: Die erste Veröffentlichung von Castrén stammt natürlich nicht aus 1858, sondern aus 1849. Der verdienstvolle Ostjake Terëškin hat seine Muttersprache erst als Erwachsener erlernt. Seine Sammlungen aus dem Kreis Surgut enthalten keine Vokalharmonie (11); Karjalainen und Paasonen zeichneten noch palatale und velare Suffigierung auf (Trj. J). In Paasonens Texten (die ich noch nicht publiziert habe) fand ich aber nur Spuren der Vokalharmonie, von dieser Tatsache beeinflußt stellte ich die Zeichen ihres Verfalls aus dem Beispielmaterial des PD zusammen (MNyj. 36 : 129 42). Die Vokalharmonie ist auch in den Trj.-Angaben im KT nicht vollkommen, es muß aber systematisch untersucht werden, ob darin der Beginn des Verschwindens zu konstatieren ist oder solche Aufzeichnungsfehler vorliegen wie in Karjalainens südostjakischen Textsammlungen (KV II, 123 54).

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Ein endgültiges Resultat ist erst nach der Bearbeitung von Karjalainens Textaufzeichnungen aus dem Osten zu erwarten.

1.2. Die vorliegende Chrestomathie enthält außer der Einleitung und dem Vorwort Kapitel über die Lautlehre (Vokal-, Konsonantensystem, Akzent, Intonation 12–6), die Morphonologie (Vokalveränderungen, Assimilation 17–8), Morphologie und Syntax (Deklination der Nomina, Konjugation der Verba, Verbalnomina, verschiedene Wortarten, verschiedene syntaktische Fragen usw. 19–41), eine bibliographische Auswahl (42–5), Texte (47–133), knappgefaßte Kommentare (134–9), Verzeichnis der Abkürzungen und der Informanten (140–1, 142–44), ein Wörterverzeichnis (145–75) und nützliche Beilagen (177–83). Nur ein Mangel sticht ins Auge: Ableitungssuffixe werden nirgends zusammengefaßt, obzwar Adjektiv-Ableiter erwähnt werden (23) und im Wörterverzeichnis die abgeleiteten Wörter ihrem Grundwort folgen.

1.3. Csepregi hat vollkommen Recht: Wenn das bei Karjalainen und Paasonen in den Suffixen belegte palatale/velare Phonempaar *ä/a* während des 20. Jahrhunderts in einem Laut zusammengefallen ist – sogar auch in der ersten Silbe—, teilen sich die Vokale nicht nur in palatale/velare Paare, sondern es gibt unter ihnen auch Zentrale (12). Aus dieser Sortierung würde aber m. E. folgen, daß bei der Angabe der Kennzeichen der Vokale diejenigen, die nicht in die „back"- oder „front"-Reihe gehören (*a, ŏ, ŭ, ə*), für ihr + Zeichen eine zentrale Reihe bekommen; genauso wäre für die in „tense" mit versehenen eine Reihe der „lax" artikulierten, und zwischen „high" und „low" eine der mittleren (*o, e, ŏ, ŏ, ə*) zu erwarten.

Die Begründung des Gebrauches von *ə* in erster und nichterster Silbe ist gut (13). In einem Artikel wäre aber wünschenswert, irgendwo genaue Angaben über Beobachtungen der nicht bezeichneten, aber erwähnten Variante *ə̂* und über *ə/ə̂* bei Karjalainen und Paasonen zu finden. Zu *sårńi/sårńə* 'Gold, gold' (169) usw. sucht man vergebens etwas über *-i/-ə* in der Lautlehre.

Das Phonemsystem der Konsonanten weist m. E. ein Problem mehr auf als jenes der Südmundarten. In den Südmundarten kann bewiesen werden – nur mit einem Beispiel, aber fast in allen Südmundarten –daß *k/χ* verschiedene Phoneme sind (KV II, 11). In der Surg.-Mundart nimmt zwar Csepregi nach Terëškin an, daß *k* und *ķ* auch hier verschiedene Phoneme darstellen, *ķ* sogar in der Rede oft als *χ* lautet (15) –, bewiesen wird dies aber nirgendwo. Im Wörterverzeichnis von Csepregi geraten sie durcheinander (152–7), bei Terëškin nicht. Russische Lehnwörter, wie *кошка* > *keška* 'Katze', *школа* > *əškola* 'Schule' (15, 16), unterstützen auch nicht den phonematischen Unterschied. Das phonologische Verhältnis von *k/γ, ķ/γ, γ/w* ist mir auch nicht klar, auch dann nicht, wenn das Sprachgefühl (15) *w* und *γ* als ein Phonem perzipiert, bzw. *w* oder *γ* auf die Herkunft der Gewährsperson aus einer anderen Gegend des Surgutgebiets hinweist (s. NyK 62:258, 259, 262). Lehrreich sind die Mitteilungen über die intervokalen Geminationen (16).

1.4. Der Lautlehre schließen sich einige Fragen des Gebrauches des Wörterverzeichnisses an. Das Wörterverzeichnis der Chrestomathie (145–75) enthält nur knappe 8 Zeilen Hinweis auf den Gebrauch, d. h. einerseits wird die alphabetische Reihenfolge mitgeteilt (die Anordnung in den Stichwörtern folgt aber dieser nicht), andererseits wird auf die Angabe der neueren russischen Lehnwörter hingewiesen (eigentlich nur derer, die im KT noch nicht zu finden sind).

Von den Zeitwörtern mit Vokalwechsel werden alle Wechselformen angegeben, ab und zu auch bei den übrigen Wörtern; es fehlt jedoch ein Hinweis darauf, wenn nur der bloße Infinitiv das Verb repräsentiert. Gegenseitige Hinweise auf an zwei Stellen ersichtliche Wörter fehlen (*juγ/juw, nŏγ/nŏw* usw; m. E. wären Hinweise nötig, auch bei *k* ~ *w*: *wŏkəŋ* ~ *wŏw* (174, 175), richtig bei „*ńŏķsəŋ* ld. [s.] *ńŏwəs*", „*sŏkkəŋ* ld. [s.] *sŏw*", „*sikkəŋ* ld. [s.] *siw*"

(163, 164, 168, 170) und auch bei „*wut* ~ *ut, utə, utnam*“ (175, 149) usw.). Die Textstellen würden bei *iki, imi* auch die Übersetzungen 'Gatte', 'Ehefrau' und bei *wăʌta* 'wohnen' erlauben. Eine ausgezeichnet gute Übersetzung gibt es bei 1. *fütyül, sivit* (173) dazu 2. *siet, elszelel* 'sich aus dem Staub machen'. Vergebens sucht man aber im Wörterverzeichnis *ķosjeŋ* (104), *wsjo* (94).

Ob alle Verba mit identischem Konsonantismus und Wechselvokalen (z. B. *å* ~ *i* ~ *u*) ohne nähere etymologische Untersuchung unter einem Stichwort mitzuteilen sind ('jut' bzw. 'ül' 147), ist fraglich.

1.5. Als eine besondere syntaktische Eigenschaft der finnisch-ugrischen Sprachen wurde schon lange festgestellt, daß das Verb 'sein' sogar nicht nur in der 3. Person (Sg. Plur.) nicht unbedingt zu setzen ist (Zsirai, FgrRok. 86). Im Mordwinischen kann sogar einem nominalen Prädikat in einem Lokalkasus das Personalsuffix der 1. und 2. Person (Sg. Plur.) nachgesetzt werden, um die Kongruenz des Subjektes und Prädikats hervorzuheben (ebd.). Spuren eines solchen Verfahrens wurden auch im Syrjänischen gefunden (Nyr. 58:117). In der Vj.-Wörtersammlung von Karjalainen befanden sich bei 'zu Hause' (143a) und bei 'auf der Wiese' (703a, 1085a) Beispielsätze im Sg., Du., Plur., in denen das Dual-, Pluralsuffix, dem Lokaladverb, bzw. der Ortsbestimmung im Lokativ (die in der Einzahl, als nominales Prädikat stehen) nachgesetzt, die Kongruenz mit dem Subjekt zustande bringen (s. NyK 60:184). Aus Karjalainens und Paasonens grammatikalischen Aufzeichnungen wurde klar ersichtlich, daß dem Ostostjakischen und auch dem Südostjakischen diese Konstruktion nicht fremd ist, s. V Vj. Trj. (KV 125, 171, 265 66), KoP J (PV 38, 87). Auch die Südaufzeichnungen von Karjalainen enthalten ein dementsprechendes Beispiel: DN *tɔw jɤγpăχtat tŏttet* 'seine Brüder [waren] dort' (KV I, 21 und III, Komm. DN 186, im Druck). Daß **nach** dem Adverb bzw. Lokalkasus die Numeruszeichen auf die Kongruenz mit der Zahl des Subjektes hindeuten – worauf Karjalainens finnische Übersetzungen auch klar hinweisen –, scheint jedoch nicht allen evident zu sein. In einem Artikel (NyK 73:409 10) wurden von den fast 40 bis damals erschienenen, dieses illustrierenden Beispielen 17 Sätze zitiert (ohne J.) und festgestellt, daß die Numeruszeichen in allen Fällen „contra grammaticam, eine falsche Zahl“ (410) anzeigen.[2] Eine Antwort s. NyK 75:374 6. Wegen der Besonderheit der Erscheinung, die vielleicht auch nach einem Prädikat im Karitiv in Vj. Trj. beobachtet wurde (KV 172, 266 7), ist es wichtig zu betonen, daß Csepregi fast um ein Jahrhundert später solche Sätze aufgezeichnet hat: *weʌit, ampət ķottit?* 'Wo sind die Rentiere, die Hunde?' (49, vgl. 40), *weʌit ķăjɔmnɔ* (*jåɣɔmnɔ*) 'Rentiere [sind] auf der Wiese, im Walde', *ʌårnɔ/ńårɔmnɔ* '[sind] am See, im Moor' (ebd.). Interessanterweise stehen im zweiten Satz, in der Antwort, das Subjekt im Plural, das Prädikat im Singular und in der Frage beide im Plural. Nach Karjalainens Aufzeichnungen kann das nominale Prädikat im Lokalfall bzw. Karitiv mit dem Subjekt kongruieren, das Setzen der Numeruszeichen scheint jedoch nicht obligatorisch zu sein, s. Vj. Trj. (KV 171, 266 7).

Besonders zu erwähnen in Csepregis Aufzeichnung: *kŭrɣɔlam nŏķnamɣɔn* 'meine zwei Füße (stehen) nach oben' (40), also folgt das Dualzeichen nicht einem Lokativ, sondern einem Approximativ!

Schade, daß diese Beispiele im Text verborgen sind, nicht hervorgehoben wurden.

1.6. Gegen die Bibliographie der vorliegenden Chrestomathie (42 45) müssen – teils zufolge des bisherigen in vielem gutheißbaren Usus – Einwände erhoben werden.

[2] OV (NyK 73:410, Z. 5 von oben) ist zu PV zu korrigieren, die übrigen Korrigenda verursachen keine Mißverständnisse.

A) Irreführend ist die Behauptung, die Bibliographie von Honti („Chrestomathia ostiacica", Tankönyvkiadó, Budapest, 1984, 240 277) sei „fast die Gesamtbibliographie der Ostjakologie vor 1984" (42). Honti ist sich auch selbst dessen bewußt, daß sein imponierend starkes Werk „nicht vollständig" ist (a.a.O. 240); sie enthält außer den Unvollkommenheiten der Bibliographien der Uralistik (die nicht entsprechende Registration der Nachlaßausgaben, nur unter den Namen der Veröffentlicher, die der kollektiven Arbeiten nur beim Leiter vom ersten Heft, die Rezensionen wenn vermerkt nur beim rezensionierten Werk, das Nichtbeachten des mehrfachen Erscheinens einiger Werke, etwa in verschiedenen Sprachen usw.; die nicht gutzuheißende Abgrenzung der ostjakologisch wichtigen in die Bibliographie gehörenden Werke, z. B. Unerwähntheit der etymologischen Wörterbücher, ganz mangelhafte Informationen z. B. über DEWO, s. ausführlicher Verf. JakabEmlk, MNyj. 38:457 63); noch bedeutende Lücken: die Aufzählung der Werke von einzelnen Verfassern ist äußerst ungenau (so fehlt z. B. bei Paasonen JSFOu. 26, MSFOu. 41, bei Munkácsi VNGy I, bei Sokolova „Das Land Jugorien", längst vergriffen, erwähnt nur das russische Original). Um die Oberflächlichkeit zu illustrieren, sei darauf hingewiesen, daß Honti z. B. von Budenz nur einen Artikel über ostjakische Sätze aus einem russisch-ostjakischen Wörterbuch (NyK 17: 161-89) angibt, aus demselben Band seine bedeutende Rezension über das Werk von Ahlqvist (NyK 17:127 50) nirgendwo. Bei einem der größten Ostjakologen des 20. Jahrhunderts, bei D.R. Fokos-Fuchs gibt es in seiner Bibliographie (ALH 24:15-27) mehr als doppelt so viele Artikel mit „ostjakisch" in der Überschrift als bei Honti, die hätte er leicht kopieren können. Ähnlich verhält es sich bei Lakó (seine Bibliographie erschien aber bei Décsy erst 1985). Der Mangel scheint jedoch noch größer zu sein: in einem Artikel kann Ostjakologie behandelt werden, ohne Hinweis darauf im Titel!

B) Die ausgewählten dreieinhalb Seiten bibliographischer Angaben sollen einerseits Bücher sein, die „sprachwissenschaftliche Werke zusammenfassender Art" repräsentieren (42, mir nicht ganz klar, was damit gemeint ist), andererseits Mitteilungen über Surgut enthalten, was natürlich richtig wäre, aber mangelhaft durchgeführt wurde. Bis es Sprachforschern in der Sowjetunion und später möglich wurde, im Herzen-Institut Studenten aus Surgut kennenzulernen (Rusvai, Honti) oder sogar an Ort und Stelle die Mundart zu studieren (Csepregi), gab es kaum sprachwissenschaftlich auswertbares Material aus diesen Mundarten. Werke von Castrén bzw. postume Veröffentlichungen von Karjalainen (KT, KV) und Paasonen (PD, PV) sind in der ausgewählten Bibliographie zu finden, das Fehlerverzeichnis des Werkes holt den Mangel des ersten sprachwissenschaftlichen Vergleiches mit dem Westostjakischen (PF) nach, der Hinweis auf die ersten authentischen, vom Sammler selbst veröffentlichten surgutischen Wortstämme wird aber nirgends erwähnt, obzwar das Surgut-Material fast überall aus OL zitiert wird. Die finnisch oder deutsch mitgeteilten mythischen Sammlungen von Karjalainen in „Religion der Jugravölker" wurden auch nicht mitgeteilt, auch nicht ihr Vergleich mit ähnlichen ostjakischen Aufzeichnungen in „Szibériai nyelvrokonaink hitvilága" [Die Glaubenswelt unserer sibirischen Sprachverwandten] (1990). Meine bei Honti befindlichen Bearbeitungen der ostostjakischen Beispielsätze der Wörterbücher (in NyK 60, 63, 67, ALH 12 13, 17) fehlen auch. Bei solcher Spärlichkeit der ostostjakischen und unter diesen der Surgutmitteilungen wäre es nicht überflüssig gewesen, auf das nur im Archiv der Ungarischen Akademie der Wissenschaften erreichbare, aber jedermann zugängliche Material in der Bibliographie hinzuweisen: „Keleti osztják névmásragozás" [Ostostjakische Pronominaldeklination] (1958), die die erste grammatikalische Zusammenfassung darstellte, vgl. noch dazu die Oppositionen von D.R. Fokos-Fuchs und besonders von P. Hajdú.

Man kann auch damit nicht zufrieden sein, daß bei einigen Werken das Erscheinen nur von der zweiten Ausgabe an registriert wurde (Castrén, Steinitz) obzwar Karjalainen z. B.

Castréns Mitteilungen aus 1849 höher schätzt (FUF IV) als die sogenannte „verbesserte", zweite Ausgabe.

1.7. Die vorliegende Chrestomathie ist das erste Werk, das die Mundart einer sprachlich **gewissermaßen** enheitlichen ostjakischen Gegend vorlegt.

Wie wohlbekannt, ist aus Karjalainens Nachlaß der Name nur je eines einzigen Informanten aus den Mundarten DN DT Kam. V usw. bekannt (KT 012 017), nur beim Wortmaterial, bzw. den Texten aus Vj. wurde der Name von zwei Sprachmeistern genannt (014, 016). Einen ganz besonderen Fall kann man nur in der Untersuchung der südostjakischen Mundarten finden: Das Kr.-Wortmaterial stammt von zwei Sprachmeistern, wozu ein dritter Texte mitgeteilt hat (zu denen noch Rätsel und Lieder von seiner vom Ob stammenden Frau aufgezeichnet wurden). Außer dieser „modernen" Kr.-Sammlung (013, 016) wurden die Ts.-Wortangaben und Ts.-Texte von zwei verschiedenen Informanten (015, 016) vermerkt. Angaben über Paasonens Gewährsleute besitzen wir noch weniger als über die Karjalainens. Die nicht an Ort und Stelle vorgenommenen Aufzeichnungen repräsentieren natürlich auch immer die „Mundart" einer einzigen Person.

M. Csepregi hat im Bezirk Surgut 13 Informanten (die zwischen 1935 und 1982 geboren wurden) gehabt. Sieben von diesen sprachen ostjakisch und russisch gleich gut, fehlerhaft wurde das Russische von zwei Männern und einer Frau beherrscht, ein Mann und eine Frau sprachen nur ostjakisch, einer der jüngeren Männer kann zwar das Ostjakische verstehen, sein Wortschatz ist aber ärmlich und auch die Sitten sind ihm nicht bekannt. Wie ersichtlich, gab es unter ihnen auch solche, deren Sprache durch das Russische nicht direkt beeinflußt werden konnte (nur durch die Sprachpartner).

Das Sammeln des Materials wurde also von Csepregi vorgenommen, wie das der Dialektsammlungen in Ungarn oder in Finnland; in einem sprachlich ziemlich einheitlichen Gebiet wurden also über ein Dutzend Informanten in Anspruch genommen. Die Sammlerin bearbeitete den Ertrag und ging nach 1992 noch dreimal ins Surgut-Gebiet zurück, um ihr Material zu ergänzen. Sie verbrachte dort insgesamt fünf Monate (5). Ohne die Entwickeltheit der Kommunikation unserer Zeit wäre dies natürlich nicht möglich gewesen, doch ist es der Gewissenhaftigkeit der Forscherin zuzuschreiben, daß ihre Sammelarbeit von der der ungarischen und finnischen Dialektsammlungen nur darin abweicht, daß sie selbst keine ostjakische Muttersprachlerin ist.

Es ist ihr zu verdanken – und gewissermaßen dennoch als Glück aufzufassen –, daß Paasonens Informationen vom Jugan teils aus demselben Gebiet stammen wie einige von ihren. Da Paasonen nicht nur Wörter, sondern auch Texte und grammatikalisches Material aufgezeichnet hat, sind aus dem zugänglichen Material historische sprachliche Veränderungen (z. B. das Verschwinden der mit *s* ausgedrückten Vergangenheit, des Distributivs) feststellbar.

1.8. Csepregi verbrachte – wie schon erwähnt – insgesamt nur fünf Monate unter Surgut-Ostjaken (5), konnte dennoch solche sprachliche Feinheiten beobachten, wie die beschränkte Bildungsmöglichkeit des Abessivs (20), den seltenen, sonderbaren Gebrauch des Vergangenheitssuffixes *-s* (29), bei den Postpositionen (antwortend auf wo?, wohin?, woher?) den zwangsläufigen Zusammenhang mit einem Substantiv (34) usw. Ihre Textübersetzungen ins Ungarische sind gut und schön, wobei dennoch die Frage aufgeworfen werden kann, daß dem Ostjakischen genauer entsprechende Übersetzungen (z. B. 'er ging, er ging') nicht der Genießbarkeit der ungarischen Widergabe geschadet hätten. Es war eine gute Idee, Fragen und Antworten des Alltagslebens mitzuteilen (48–9), solche Sammlungen gab es bisher nur bei Pápay (BiblPáp. VI, 240ff.). Die Angabe der Melodien und die Landkarten heben den Wert der Chrestomathie ebenfalls (182–3).

Es war eine gute Idee, die Deklination der Personalpronomina, von der Csepregi nur Bruchstücke aufzuzeichnen gelungen ist, von Honti zu zitieren. Hontis Aufzeichnungen (P) stammen doch von einer Informantin, die auch Csepregi zur Verfügung stand, sind also als synchron zu betrachten, woraus jedoch ersichtlich wird, daß in 10–15 Jahren die objektiven Kasus der Personalpronomina seltener geworden und demzufolge schwerer zu erfassen sind (24–7). Was den Schwund des *-n* besonders in Suffixen der 2. Pers. betrifft, wäre auch da eine Angabe nach Honti geeigneter gewesen als nur ein Hinweis auf seine genaueren Beobachtungen (22).

In einigem weicht meine Auffassung von der Csepregis ab: die Einsilber *jə-* 'werden', *jŭ-* 'kommen' usw. sind m. E. Verba mit Vokalstämmen, die vor einem vokalisch anlautenden Suffix einen Hiatustilger benötigen, und nicht Verba, die zwei verschiedene Stämme aufweisen (28, s. auch Steinitz, Chr. 67), bei den Abl.-Adverbien mit *-lt-* hätte ich darauf hingewiesen, daß sie veraltete Suffixe enthalten (36), bei Texten aus Schulbüchern und literarischen Mitteilungen, die nach der Aussprache der Gewährsleute mitgeteilt wurden, wäre in den Kommentaren einiges über ihre Transliteration mitzuteilen gewesen (178–81, 134–5), besonders da doch die Transliterationsschwierigkeiten mit den phonologischen Problemen des Konsonantenbestandes zusammenzuhängen scheinen; vgl.:

Csepregi		Ajpin (54, 181)	
w	*mŭwat*	*в*	*муваm*
w	*ķŏw*	*х*	*кох*
γ	*sâγit*	*х*	*сахет*
ķ	*mâķi*	*к*	*маки*
k	*ťikim*	*к*	*чиким*
	aber		Terj.
ķ	*ķŏwən*	*ķ*	*ķəвəн*
k	*kŭrəp*	*к*	*кӱрən*

Das Wichtigste an dieser Schrift ist dennoch, daß alle Surgutostjaken sie verwenden und verstehen können, so daß sie nicht gezwungen sind, miteinander russisch zu korrespondieren.

2. Csepregi, Márta (Hrsg.): Finnugor kalauz [Finnisch-ugrischer Führer] Budapest–Győr, 1998, 288 + 32 S.

Dieses Werk ist nicht nur für alle Schichten der Uralisten, sondern für alle Ungarn ein interessantes, gut lesbares Buch. Im 20. Jahrhundert wurde die uralische Herkunft der ungarischen Sprache wissenschaftlich bereits nicht mehr angegriffen, damit haben sich doch nicht immer und nicht alle Ungarn zufriedengegeben. Für jedermann akzeptabel wissenschaftlich korrekt und mit guter Bibliographie wurde die Frage betreffs der Finno-Ugrier zuerst von Zsirai behandelt: „Finnugor rokonságunk" [Unsere finnisch-ugrische Verwandtschaft], Budapest, 1937. Eine Generation später, als dieses Buch schon vergriffen und die gemeinsame Abstammung mit den samojedischen Sprachen schon unanfechtbar war, erschien von P. Hajdú „Finnugor népek és nyelvek" [Finnisch-ugrische Völker und Sprachen], Budapest 1962, worin im Widerspruch zum Titel des Buches auch das Wichtigste über die Samojeden zu finden ist. Besonders mit literarischen Ergänzungen versehen, dient demselben Ziel Hajdú Domokos, „Uráli nyelvrokonaink" [Unsere uralischen Sprachverwandten], Budapest 1978. Da Zsirais Buch mit den nötigen bibliographischen Ergänzungen, betreut von G. Zaicz, seit 1994

wieder zugänglich ist, gab es eigentlich keinen Mangel an einem das Publikum und in bibliographischer Hinsicht auch die uralischen Sprachforscher informierenden Werk. Csepregi hat dennoch die Möglichkeit gefunden, dem Publikum ein lesbares, dem größten Teil der Uralier einiges Neue bietendes Werk vorzulegen: Forscher, die nach dem zweiten Weltkrieg (die meisten in den letzten Jahren) an Ort und Stelle die Völker mit einer uralischen Muttersprache kennengelernt haben, teilen ihre persönlichen Eindrücke mit.

2.1. Unter den fast zwei Dutzend Autoren bekamen so die jungen und sogar die allerjüngsten die Möglichkeit, über ihre Reisen zu referieren. Nur einer der Autoren, ein emeritierter Professor, wurde vor dem zweiten Weltkrieg geboren, zwei während des Weltkrieges, zwanzig nach dem Weltkrieg – die meisten zwischen 1950 und 1970 – und die beiden jüngsten (geb. 1970, 1971) sind mit ihren postgradualen Studien sogar noch nicht fertig (256 9). Die Eindrücke und der Gesichtspunkt der Beobachtungen sind also ganz aktuell.

2.2. Der „Finnisch-ugrische Führer" wird durch das Vorwort – etwas länger als üblich – in die Serie der Bücher von Zsirai Hajdú gereiht. Darin wird der Leser kurz, aber sachlich, der aktuellen Wissenschaft entsprechend, von Csepregi, Klima und Szíj (7 48) über Sprachverwandtschaft, ungarisches Bewußtsein und finnisch-ugrische Verwandtschaft, Urheimat und Wanderungswege sowie über die Geschichte und das Leben der Finno-Ugrier in Rußland unterrichtet, wozu auch geographische Karten in Anspruch genommen werden, in einer Form, daß alles auch dem Laien verständlich wird. Dann folgen die Eindrücke der Reisenden. Bei den Wogulen und Ostjaken weilten unlängst K. Sipőcz, D. Dolovai, M. Csepregi, E. Ruttkay-Miklián (48 79) bei den Syrjänen und Wotjaken A. Dobó, I. Kozmács, Zs. Salánki (80 112). Von den Tscheremissen, wo auch G. Bereczki und L. Felföldi gesammelt haben, kam M. Kusnezowa, bei den Mordwinen hielten sich G. Zaicz und E. Mészáros (114 55) auf. Über die Finnen des Baltikums und die Lappen berichten J. Varga, P. Pomozi, D. Peregi, E. Ruttkay-Miklián, M. Csepregi und E. Bogár (156 219). Eindrücke, Erfahrungen unter Samojeden in Sibirien teilen uns B.B. Nagy, Z. Nagy und F. Sobanski mit (220 53). Den Reiseberichten wurden gute Landkarten beigelegt, verschiedene, während des Lesens auftauchende Fragen beantworten die Beilagen (254ff.), aus denen z. B. auch ersichtlich wird, daß es sich bei den Autoren um Ungarn handelt, bzw. um eine in Ungarn unterrichtende tscheremissische Lektorin (Szombathely-Steinamanger) und einen deutschen Lektor der Universität von Budapest (ELTE). Eine Auswahl der Fachliteratur sowie das Orts- und Namenregister interessieren besonders die Fachleute, gute Farbphotos bereichern das Buch noch – leider nicht mit genügend ausführlicher Angabe der Photographen.

2.3. Der „Finnisch-ugrische Führer" bietet auch den Fachleuten bisher unbekannte Mitteilungen z. B. über die Glaubenswelt der Uralier. Früher war es sehr schwer, etwas über ihren heidnischen Glauben aufzuzeichnen. Zur Zeit des Zarismus war jeder Untertan zwangsläufig Mitglied der pravoslavischen Kirche, wollte immer und überall als guter Christ erscheinen. Wenige Forscher konnten ihr Zutrauen dermaßen gewinnen, daß sie sich getraut haben, etwas über ihren heidnischen Glauben zu sagen. Nach der Oktoberrevolution wollten sie als Atheisten nichts vom Heidentum wissen. In der Sowjetunion gelang es einigen später, Spuren heidnischer Sitten aufzuzeichnen, und neuerdings wird es immer klarer, daß das Heidentum gewissermaßen noch fast bei allen Uraliern existiert, daß man noch regelmäßig opfert usw. (51, 52, 64 6, 103 6, 110, 122, 150 1, 225, 227 9, 231 3, 241 6, 248).

2.4. Der „Finnisch-ugrische Führer" berichtet also nicht nur bis zu unseren Tagen über die Uralier, sondern enthält eigentlich über alle etwas Neues. Da es sich um fast zwei Dutzend Autoren handelt, ist einerseits das wissenschaftliche Niveau und andererseits die gute Lesbarkeit der Mitteilungen nicht überall gleich und so hoch wie bei Zsirai oder Hajdú. Falls

es zu einer zweiten oder fremdsprachigen Ausgabe käme, würde ich nur eine Veränderung empfehlen: eine in jeder Hinsicht größere Berücksichtigung der geographischen und sprachlichen Gliederung der Lappen. Wenn daran auch finnische Lappologen teilnehmen würden, wären die Autoren zwar derzeit nicht alle in der ungarischen Uralistik beschäftigt, das Werk würde aber dadurch gewinnen.

2.5. Das mit Freude gelesene Buch legt man leider dennoch verstimmt beiseite: Aus allen Mitteilungen über die in Rußland lebenden Uralier -bis auf die Tschermissen- bekommt man den Eindruck, daß die Zukunft ihrer Sprache ungewiß oder eher überhaupt nicht gesichert ist. Die höheren Studien absolvieren sie russisch, sie heiraten zumeist während des Studiums, die gemeinsame Sprache der jungen Ehepaare und ihrer Kinder ist zumeist das Russische, und nur wenige dieser Kinder erlernen mit der Zeit die Muttersprache des Vaters oder der Mutter. Nicht nur die Reiseberichte, sondern auch die mitgeteilte Statistik (255) spricht leider hierfür. Von 1959 bis 1989 ist zwar die Seelenzahl der Obugrier und der permischen Völker angewachsen, aber in kleinerem die der wogulisch, ostjakisch, syrjänisch, permjakisch oder wotjakisch sprechenden Leute. Bei den Juraken und Tawgy-Samojeden wuchs zwar nicht nur ihre Zahl, sondern in geringerem Maße auch die der samojedisch Sprechenden, der Anteil der die Muttersprache beherrschenden Samojeden wurde jedoch um 7,6 10,2% kleiner. Nur die tscheremissische Lektorin äußert sich nicht pessimistisch, die Gesamtzahl der Tscheremissen wuchs in 30 Jahren fast um 170000, die der die Muttersprache kennenden aber nur um 62562, demzufolge kannten auch bei ihnen früher 95,1%, bei der letzten Statistik nur 80,8% ihre Muttersprache, es gibt also auch hier keine Verbesserung!

Edith Vértes

Ferenc Kiefer: Jelentéselmélet [Semantic theory]. Corvina, Budapest 2000, 381 pp.

In contemporary semantics there are all kinds of trends whose approach to meaning and semantics does not only differ in a number of respects but they also clash with each other. Therefore, the exposition of a self-contained semantic theory requires a fairly comprehensive survey, a continuous comparison of the competing theories, a presentation of the differences and the debates, and it requires a continual presentation of one's views. Ferenc Kiefer in *Jelentéselmélet* fulfills these tasks: he shapes his own views on semantics by integrating all that is acceptable for him in the various trends and could be built into the framework of a structural theory of semantics. At the same time, the author in this work sums up, complements and rethinks what he formulated in his writings on semantics in the past years.

Based on their approach to the nature of semantic relations, the author distinguishes three main areas of semantic theory (formal, cognitive, and structural), he also shows that even these branches are not homogeneous. He does not reject any of them though, claiming that all have a place in contemporary semantics. Nevertheless, he takes a stand on structural (or linguistic) semantics. In an era when the formal approach is rather prevalent in linguistics, when for some "modern", "formal" and "exact" are basically inseparable notions, it is refreshing to see that Kiefer does not equate modern with formal (the book admittedly does not deal with formal semantics), but of course he also employs formal tools, as well as integrating certain results of cognitive semantics in a work of a fundamentally structural nature. Therefore, the book may well be in the range of interest of those who are not so much interested in formal semantics, but who wish to know about the current results of non-formal semantics. As far as readability is concerned, it is especially a virtue on part of

the author that he is able to discuss complicated and abstract topics in a clear and explicit way, and so the book – which itself has a high theoretical standard – is easy to read and follow, what is more, it is an enjoyable reading.

While formal or logical semantics ignores the meaning of the word and takes the meaning of the sentence as basic, and cognitive semantics deals with the meaning of the word, structural semantics investigates the level of both the word and the sentence. Accordingly, in the book (altogether comprising twelve chapters) after the two introductory chapters ('A jelentés leírásának módjai' ['The description of meaning'], 'Szemantika vagy pragmatika?' ['Semantics or pragmatics?']), there are chapters dealing with topics of both word and sentence semantics. Three chapters present the current research into word semantics connected with various semantic schools ('A komponenses elemzés' ['Componential analysis'], 'A prototípuselmélet és a kognitív szemantika' ['The theory of prototypes and cognitive semantics'], 'A poliszémia és a kétszintű szemantika' ['Polysemy and two-level semantics']), then three chapters discuss the semantics of the basic word classes ('A főnév' ['The noun'], 'A melléknév' ['The adjective'], 'Az ige' ['The verb']). The topics of the last four chapters ('A mondat időszerkezete' ['The temporal structure of the sentence'], 'Aspektus, akcióminőség, eseményszerkezet' ['Aspect, Aktionsart, event structure'], 'A modalitás' ['Modality'], 'Az előfeltevések' ['Presuppositions']) are mainly connected with sentence semantics, although some subsections touch upon issues involving derivation and word classes (mainly the verb). At the end of each chapter, brief summaries help the reader understand the most important facts and there is also a further readings section presenting the most important literature that discusses the topics raised in more detail.

The first chapter entitled 'A jelentés leírásának módjai' ['The description of meaning'] presents the typical meaning concepts of the three semantics schools as well as the research topics associated with the individual schools. In connection with structural semantics the chapter also lists and briefly describes the various meaning relations (synonymy, hyponymy and hyperonymy, incompatibility, contradiction, antonymy, weak implication, presupposition, conventional implication) which are traditionally investigated in this framework. Despite the fact that word semantics, according to Kiefer too, has preserved its central role in structural semantics, as it is visible in the listing above, only those meaning relations of this school are discussed in this chapter which can be interpreted on the basis of relations between statements. Therefore, the interpretation of synonymy is very restricted, and no mention is made of polysemy here since it cannot be discussed within this approach (although the author devotes a chapter to this topic when he later discusses two-level semantics). For similar reasons and because of the supposed or real irregularity of the relevant phenomena, there is no separate mention of metonymy and the metaphor either in connection with the meaning relations of the synchronic system. (These issues are discussed only later, in relation with cognitive semantics and polysemy.)

When discussing the difference between the structuralist semantics of the past and the structural semantics of the present time, Kiefer mentions that structural semantics does not deal with the problems of meaning change since this type of change does not seem to be regular. Here, it is not clear whether the author, who basically accepts the views of structural semantics, fully shares the view of this school or not – if he does, this would mean the neglect, what is more, the rejection of diachronic linguistics. In my opinion, although the changes in the meaning of some words do seem to be irregular and unpredictable, we can pinpoint particular types or mechanisms of possible meaning changes (as in the case of the various types of metaphors and metonymy, for example) that are not independent of the divergent meaning relations in the synchronic system. In chapter five of the book, when presenting a

typical mechanism of meaning change, that of conceptual shift, the author does mention a phenomenon related to one type of metonymy – regular polysemy –, and so the problem of irregularity and unpredictability is mentioned there as only a characteristic of metaphors.

The second chapter ('Szemantika vagy pragmatika?' ['Semantics or pragmatics?']) raises the question whether it is worth distinguishing semantics and pragmatics and whether it is possible to do it at all. The various semantics schools arrive at divergent conclusions in this respect. For instance, the theories of formal semantics that employ other formal tools in addition to truth conditions strangely enough take everything that can be represented in a formal way to be part of semantics. Contrary to this view, structural semantics does distinguish semantics from pragmatics. The basis of the distinction is conventionalism: pragmatics is concerned with the communicative meaning of utterances linked to speech situations, that is, to language use, and is thus derived from the maxims of conversation; on the other hand, the traditional approach to meaning which is based on the relations of the linguistic forms, that is, the meaning linked to the level of the linguistic structure, is the subject matter of semantics. The two areas ought to be discussed in relation with each other, the author exemplifies this through interrogative sentences. In spite of the fact that at times the division line between semantics and pragmatics is not clearly drawn (as, for instance, in the case of pragmatic particles or interjections), Kiefer for example shows in connection with deontic (obligatory and permissible) speech acts that if one distinguishes the two areas, it is possible to treat the various possibility and necessity concepts in a unified manner.

The third chapter presents the historical background and the various types of componential analysis. The author stresses that the semantic features, with which componential analysis aims to capture the meaning differences of words belonging to the same semantic field, cannot be arbitrary, and semantic analysis must take into consideration markedness factors and must also mirror the dimensional characteristics of objects. In addition to this, contemporary componential theories represent the components of meaning and meaning itself with the use of elementary predicates. The advantage of this approach is that word meaning can now be formalised; its disadvantage, however, is that it cannot be applied to all kinds of lexical unit: units whose meaning is not clearly relational only partially, and those whose meaning is fully relational can fully be broken up into components, while the names of objects, plants and animals cannot be broken up like this at all. Kiefer also shows that formal semantics also makes use of componential analysis, but instead of the criterion of psychological reality, it employs logical criteria to define the components of meaning.

The second half of the chapter presents two special types of methods of componential analysis: Jackendoff's conceptual semantics and the theory of Wierzbicka. While Kiefer does not accept either of these semantic theories, he thinks that some aspects of them might well be beneficiary for the contemporary concept of meaning. He sees Jackendoff's merit in that he showed that the semantic representation of syntactic structures is to be multi-levelled and that with his two-level semantics he contributed to the development of the theory of so-called thematic roles. The author draws attention to the fact that the theory of Wierzbicka has a particular place among today's semantic theories as it does not distinguish between object language and metalanguage and it does not employ formalisms in the description of meaning relations. Also, it derives its universal semantic primitives completely from natural languages and its descriptions of meaning are basically paraphrases of interpreted meanings, defined with the help of semantic primitives. Kiefer admits that Wierzbicka's meaning paraphrases – despite their shortcomings – have theoretical significance since they can connect the meaning components with the concept of the prototype, and their foundation is purely linguistic; furthermore, although they often reflect a naive world view, they cannot

be identified with encyclopaedic descriptions, since Wierzbicka thinks that linguistic and non-linguistic knowledge can always be treated separately.

In my view the chapter on componential analysis should have featured another non-mainstream semantic theory, namely that of the Hungarian linguist, János Zsilka (Zsilka 1975; 1978; 1988; *NYMDK* 1985), all the more because even if Zsilka's views on meaning are quite different from those of the authors mentioned above, some basic facets of his theory parallel both Jackendoff's and Wierzbicka's ideas in many respects. First, just like Jackendoff, Zsilka also emphasizes the interrelation of syntax and semantics: his pioneering idea, which is gaining a central role in typology and syntax these days, was that the lexical and semantic features of verbs define their syntactic behaviour (Talmy 1985; Levin 1993; Levin Rappaport Hovav 1995; 1996). And then secondly, his semantic theory that does not utilise formalisms reflects a naive world view and is based on natural language just like Wierzbicka's semantic model, except that in it the components of meaning are not universal semantic atoms, but elements arising as meanings related to each other and which are static as well as dynamically changing at the same time.

It is needless to say that Kiefer has selected in his book those theories that are close to his interest and theoretical beliefs and that he can partially or fully accept, apply in his approach in some way, and build in the line of thinking of the book itself. However, the author's considerations somewhat restricted the range of topics from what would be desirable; at least, as far as I am concerned, I regret that relatively few thoughts of some outstanding Hungarian semanticians have been included in such a comprehensive work as this. Among the works of the past decades related to the chapters and topics of *Jelentéselmélet* besides the works of János Zsilka, I missed further references to the works of Sándor Károly, Iván Fónagy, and Zoltán Kövecses (Károly 1970; Fónagy 1988; 1999; Kövecses 1986; 1990; 1998).

The fourth chapter ('A prototípuselmélet és a kognitív szemantika' ['The theory of prototypes and cognitive semantics']) takes a critical look at the psychological and philosophical background of the development of the theory of prototypes, its main concepts and the limits of its applicability to linguistic analysis. It is this as well as the following chapter where metaphors and metonymy are discussed. Even though Kiefer opposes the approach of formal semantics and rehabilitates, as it were, the concept of the metaphor, he, as far as systematicness and describability are concerned, attaches greater significance to metonymy, and accordingly, in chapter five, he discusses metonymy and polysemy in detail, while he mentions the metaphor only briefly in both chapters. The most important merit of cognitive semantics, according to the author, is that it is this framework that has placed an emphasis on those phenomena (in addition to metonymy, the metaphor, and polysemy too) that have been neglected by other contemporary semantic theories, most notably by formal semantics. At the same time, Kiefer firmly denies the view of the holistic branch of cognitive linguistics, according to which linguistic and meta-linguistic competence cannot be separated. That the two types of competence are indeed different and can be separated, and that the scope of analysis of prototype semantics is limited is shown through the author's own examples at the end of the chapter.

In the first part of chapter five ('A poliszémia és a kétszintű szemantika' ['Polysemy and two-level semantics']) Kiefer considers the possibility of separation of the concepts polysemy, homonymy and semantic indefiniteness and suggests that this separation is basically impossible (cf. the notion of what is called the polysemy continuum). In the second part of the chapter, the author (employing the modular approach of cognitive semantics, i.e. two-level semantics) discusses the polysemy of verbs and nouns, drawing attention to the difference in the mechanisms of meaning change related to these two classes.

Two-level semantics in its semantic representation distinguishes an underspecified semantic base level and a more complete derived conceptual level. The differentiation between semantic and conceptual polysemy is linked to the differentiation of these two levels and the lexicalisation differences occurring in languages. According to two-level semantics, context plays a direct role in the meaning change of verbs (conceptual differentiation), while it is conceptual schemes that mediate in the meaning change of nouns (conceptual shift). The latter changes of meaning are a result of metonymic extension. Metonymic extension and conceptual shift play an outstanding role in the system as the phenomenon of what is called regular polysemy is also based on them. Regular polysemy is not only regular but can also be predicted this the author contrasts with other types of metonymy, as well as unpredictable metaphorisation, which result in irregular polysemy, although when talking about the concept of the "generalised metaphor" of holistic cognitive linguistics and discussing the need for differentiating between simple and complex metaphors, the author mentions the possibility of further research in the direction of the regularities of metaphorisation.

The next chapters deal with the semantics of the noun, the adjective, and the verb. The semantics of the noun and the adjective is discussed in separate chapters (chapter six and seven respectively), while basically three chapters are devoted to the semantics of the verb, as, besides chapter eight 'Az ige' ['The verb'], the following two chapters also deal with problems surrounding the meaning of the verb.

According to Kiefer, as opposed to the traditional view, the noun can be defined solely on formal grounds. Within the subclasses of the noun, he investigates three from a semantic perspective. He surveys the following issues in regard to countable nouns: specification and definiteness, the opposition between animate and inanimate, and the problem of generic and specific reading. Among the problems concerning concrete nouns, he pinpoints the issue of the compatibility of their predicative and non-predicative uses, while when presenting proper nouns, he stresses that, as opposed to the logical and philosophical approach, in structural semantics the most crucial problem concerns the use of these nouns in various contexts. At the end of the chapter on the noun, the author scrutinizes some morphosyntactic problems (regarding derivation and compounding) through concrete examples.

As far as adjectives are concerned, Kiefer shows that while it is possible to separate the meaning of adjectives from that of verbs based on formal criteria, the separation of the meaning of adjectives and the meaning of nouns can only be achieved on semantic grounds. The author brings sufficient evidence to prove in the case of adjective why the predicative and non-predicative functions need to be treated separately. He sets up various semantic classes of adjectives using well-defined criteria (absolute, relative, irregular; within the relative set: dimensional and evaluating adjectives), and presents the difficulties arising in the description of these classes and the adjectival attribute structures. Finally, he discusses semantic criteria with regard to the derivation of adjectives, based on the semantics of three derivational affixes.

The eighth chapter, on the verb, starts out with the question of definability of the concept of the verb. This chapter argues that it is possible to phrase a definition of the verb on a solely formal basis, employing morphological attributes. It presents tests with the help of which it is possible to distinguish the classes of state and action verbs from each other. This chapter is also concerned with the argument structure of verbs, which is not only a syntactic, but also a semantic problem. Having summed up the theory of thematic roles, the author goes on to discuss the theory of proto-roles. According to him, the significance of this theory lies in the fact that many of the shortcomings of thematic roles can be satisfactorily resolved in it. Then follows the description of various idiosyncratic verbal

classes (control verbs, factive, implicative, and causative verbs, as well as verbs reflecting statement attitude). He also mentions a hypothesis which is gaining ground in contemporary typological and syntactic theories. According to this hypothesis, the possibility of syntactic alternations is regulated by word semantic factors. The end of the chapter surveys semantic issues concerning the formation of prefixed verbs, anticipating the relevant topics (aspect, Aktionsart) of chapter ten, as it were.

The following chapters raise various issues concerning the semantics of sentences, based on the semantics of the central unit of the sentence, that of the verb. Chapter nine ('A mondat időszerkezete' ['The temporal structure of the sentence']) scrutinizes the semantics of tenses. Kiefer investigates the outer temporal relations of the sentence (the deictic temporal relations) using the model of Reichenbach. His conclusion is that this model is only applicable for those languages which encode the time of action vectorially, that is, they distinguish past, present and future tenses. For those languages which encode time in a metric way (i.e. where the time of action can be measured in intervals that are either near or far off the point of conversation) this model is not suitable. Discussing the temporal structure of texts, the author notes that it is only possible to establish these time relations on semantic grounds if they are lexically encoded in a language.

In chapter ten we find discussions on aspect, Aktionsart, and event structure, partially based on the research into this area by the author himself. The definition of aspect by Kiefer is based on sentence semantics: aspect is the inherent temporal structure of the event, expressed in the sentence. The question is what relation there is between sentential aspect, defined like that above, and verbal aspect. The author shows that this relation depends on the degree of the compositionality in sentential aspect, and that compositionality itself shows differences in the various language types. While in Slavic languages verbal aspect directly defines sentential aspect, in Hungarian there are other factors beyond verbal aspect that affect it, and in English and French sentential aspect is almost fully compositional. The aspectual categories (continuous perfect, permanent temporary, progressive non-progressive, habitual non-habitual), similarly to the definition of sentential aspect, are defined by the author with interval properties. These categories can be separated with the help of various kinds of tests.

Kiefer is talking about Aktionsart only in the case of complex verbs, since this concept is defined as a morphosemantic category, that is, he accepts it only when it is expressed with some morphological tool. This means that this type of Aktionsart does not exist in all languages. According to the author, in Hungarian for example, only those verbs can be defined with respect to Aktionsart that have grammaticalised prefixes or derivational suffixes. Based on these formal features, Kiefer distinguishes eleven categories of Aktionsart in Hungarian (frequentativity, repetitiveness, diminished intensity, saturation, delimitation, inchoativity, resultativity, semelfactivity, totality, exhaustiveness, intensity). The author points out that in Hungarian the distinction between prefixed and non-prefixed verbs is not based on aspect because prefixed verbs have further semantic features, e.g., Aktionsart.

The event structure of verbs is different from both aspect and Aktionsart. Event structure of verbs can be defined with the help of subevents and their temporal relations marked by the verb. Verbs can be categorised on the basis of their event structure (using verbal modifiers). The event structure of the sentence, similarly to sentential aspect, is compositional.

The two final chapters ('A modalitás' ['Modality'] and 'Előfeltevések' ['Presuppositions']) investigate topics in connection with which just like in the previous chapter Kiefer can rely on the results of his previous works the most. In chapter eleven, with respect to

modality, the author presents the approaches of the logical and the linguistic traditions which developed independently of each other. He discusses in detail the various instantiations of the modality concept in logic and their counterparts in language. The author does not agree with those views which claim that linguistic modality could possibly be linked to a single word class, but he also dismisses the definition of modality prevalent in the early linguistic literature, namely that modality can be related to the speaker's attitude (i.e. his intellectual, emotional or volitional attitude to what he has to say) on grounds that this definition is not only loose but also vague. Kiefer defines linguistic modality in a way that it may also be reconcilable with the modality of logic (or rather with its epistemic and deontic types). According to this approach, modality expresses one possible state of the world. The author illustrates what linguistic tools there are in Hungarian to express modality, and also touches upon modality systems occurring in various languages (modality systems that utilise the notion of necessity and possibility, as well as those based on the various degrees of certainty). He also shows in what ways the objective and subjective forms of modality are different in their content and form both generally and specifically in Hungarian.

The last chapter (chapter twelve) surveys issues concerning presuppositions. Since the concept of presuppositions has triggered heated discussions in logic, in order to avoid logical problems, the author accepts two definitions of this concept in semantics. On the one hand, we can view semantic presupposition as "a new semantic relation which cannot be traced back to any of the relations known from logic" (p. 349); on the other hand, it might as well be defined as being related to text coherence. The question of presuppositions may not be referred to the area of pragmatics, for presuppositions can be predicted, and so they clearly belong to the sphere of semantics. Kiefer sums up the factors in language that bring about presuppositions, and based on this, he also classifies them in accordance with their content, origin and scope (existential non-existential, syntactic lexical, universal non-universal presuppositions). He presents proposals that have been brought forward to solve problems related to presuppositions of complex sentences. Among these, the most promising for him is discourse semantics, yet, at the same time, he also pinpoints the shortcomings of this framework: there are plenty of unanswered questions left in this field as well.

These days when there are all kinds of trends and approaches competing in the linguistic market, it is almost impossible for a single author in any field—to write a comprehensive course book which features all trends of the discipline. When it comes to books written by one author, I think it is indispensable for this author to be able to have a clear view of the research field, the current state of the field, and he or she must present a carefully selected material, close to his or her taste, ranging over a wide selection of topics, taking on the responsibility that others may well select other themes, they may well put emphasis on other aspects, or they may well evaluate certain phenomena in a different way. Ferenc Kiefer's *Jelentéselmélet* is such a work. Through this book, the Hungarian readers can gain access to such knowledge that has not been published in Hungarian and that has largely been inaccessible even in foreign languages in Hungary. This body of knowledge has been critically evaluated by the author, and he complemented it by his own results from a wide range of research topics, and so *Jelentéselmélet* is not only the invaluable summary of the results of contemporary non-formal semantics but it is also an original work in all senses of the word: linguists, university and college students, scholars working in the borderline of linguistics and other sciences, as well as other interested readers will find this work enjoyable and highly instructive.

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Multilingua. Journal of Cross-Cultural and Interlanguage Communication. Special issue: Language contact in East-Central Europe. Edited by Miklós Kontra. Volume 19 (2000) 1/2, Mouton de Gruyter, Berlin–New York, 220 pp.

The present volume of *Multilingua* is dedicated to one topic: "Language contact in East-Central Europe", it contains eight articles, and book reviews as well (six connected with the theme of the volume and nine on other sociolinguistic topics).

Since sociolinguistics is a branch of linguistics of a social nature, its area of investigation is not narrowed down to problems that are of the main concern of theoretical linguistics. The studies of the volume do not only focus on the main topic but also touch upon issues such as the relationship of cultural and political nation, that of language, nation, and identity;

problems like regulation of language use, the linguistic standard, language law, the status of minorities, the question of equal opportunities of language use, and the responsibility of linguists regarding language and minorities-related politics, among many other issues. The volume may well be in the range of interest of not only linguists but also of those who are concerned with the complexity of the social and political situation in East-Central Europe and its consequences to language and language use.

Right away, the first study by Dubravko Škiljan 'From Croato-Serbian to Croatian: Croatian linguistic identity' raises a very intriguing question. While ten years ago most Croatians in Croatia (which at the time belonged to Yugoslavia) regarded their mother tongue as a variety of Serbo-Croatian, as a study on attitudes reported, today the same speakers (now as citizens of the independent Croatian state) consider their language to be different and independent from Serbian. The author investigates what may lie behind the change in this linguistic attitude, for the close scrutiny of this question might well be instructive for both the linguistic and political practice, as well as for the theory of sociolinguistics and general linguistics. Škiljan does not agree with opinions according to which Croatian was a self-standing language in the first place but, in the earlier political situation, the awareness of separation could not transfer from the private sphere into the public sphere. Neither does he agree with the view that major linguistic developments should have taken place since the Croatians have gained their political independence. Contrary to these views, he believes that the rapid change in attitude is not primarily connected with a change in the linguistic structure, but it is a direct consequence of language policy in Croatia.

The article by Milorad Radanović 'From Serbo-Croatian to Serbian' matches Škiljan's writing in both its title and its content since it deals with the development of the independent Serbian language identity. Having presented the historical background (i.e. the linguistic situation of the former Yugoslavia), the author goes on to survey the current ethnic and linguistic state of affairs, which involves issues such as the relationship between the languages of the majority and the minority, the mediating language, bi- and multilingualism, and language policy. Then he considers the developments taking place in the Southern Slavic languages, based on his own book released as a part of a long-ranging international project ('Modern changes in Slavic languages 1945 1995') and outlines the principles, procedures and consequences of language planning related to Serbian. He shows that the separation of the Serbian and Croatian varieties of standard Serbo-Croatian –which exhibit a more than two hundred years old common history– into independent Serbian and Croatian took place without major modifications in the structure of the language. Furthermore, he also shows that the recognition of the Serbian standard as an independent Serbian language occurred after the separation of Croatian.

Jiří Nekvapil's writing 'On non-self-evident relationships between language and ethnicity: How Germans do not speak German, and Czechs do not speak Czech' investigates the relationship of language and ethnicity of people who are treated as individuals of German ethnicity living in the Czech Republic. This research was carried out employing the procedures of ethnomethodological analysis and was based on thirty individual interviews recorded in 1995 and 1996. The majority of the subjects were born in the 1920's and 1930's, the research material was based on their oral biographies, and so this historical survey, which was not primarily sociolinguistic but rather of sociological and anthropological nature, spanned the life of some three generations. Based on the analysis of the biographies, Nekvapil shows that although in today's Czech Republic, language in its relationship with ethnicity qualifies as playing a major role the relation of language and ethnicity has undergone modifications over the years, and the various generations have come across the diverse incarnations of this

relation. The author illustrates through examples taken from the interviews that linguistic and ethnic identity have a traditionally strong knot, but ethnic identity might well get separated from linguistic identity, and can solely be a biological category, and, what is more, it can be a category chosen by the speaker's own will and be independent of both language and biological determination. The institutional as well as ordinary discrimination of speakers speaking the majority language against those speaking the minority language may lead to the alteration of the language identity of the minority. The outcome of this process is that the ethnic minority will lose their minority language, and so the use of the minority language cannot be the indicator of one's membership in a minority group.

Juliet Langman and István Lanstyák in their article entitled 'Language negotiations in Slovakia: Views from the Hungarian minority' investigate the myths surrounding the Hungarian minority living in Slovakia (these include: 1. Hungarians are not able to and do not want to speak Slovakian; 2. Slovaks are a suppressed minority in Southern Slovakia, their language is endangered by the Hungarians (who comprise the majority there); 3. Hungarians are not allowed to speak Hungarian in public places). The first two myths have played a major role in the shaping of the Slovakian language policy and in the passing of language laws based on this policy (cf. the article by Simon and Kontra), while the third is a consequence of a particular interpretation of the Slovak state language law. The myths work as active forces, while following from the very nature of myths they are never analysed and their truth is never questioned either. The aim of the authors was to investigate the reactions concerning these myths within the Hungarian minority and their effects on the Slovakian Hungarian contact and conflicts. The danger of these language myths in Slovakia is indicated by the fact that according to the survey they have an enormous effect and only few dare to challenge them actively.

Szabolcs Simon and Miklós Kontra in 'Slovak linguists and Slovak language laws: An analysis of Slovak language policy' try to answer the question, based on the Slovakian situation, how the relationship between linguistics and politics can be characterized and how much responsibility linguists have in the language policy of a country. This question has become most topical by the end of the twentieth century as the role of language identity plays an increasingly significant role in ethnic conflicts (cf. the articles of the volume mentioned above). The article briefly analyses the Slovak language policy between 1989 and 1998 and tackles the role played by Slovak linguists (especially that played by Ján Kačala) in the shaping of the language policy of the Slovakian government restricting the language use of minorities. Despite the fact that it was received with international outrage among linguists, the anti-minority and discriminative Slovak state language law (1995) is still in force. With the objective analysis of the development of the Slovakian situation, the study wishes to call attention to the ethical responsibility of linguists in directly or indirectly affecting political decision-makers, and, following from this, in the shaping of language policy and laws regulating language use.

The article by István Csernicskó and Anna Fenyvesi 'The sociolinguistic stratification of Hungarian in Subcarpathia' presents the language of the Hungarian minority inhabiting Subcarpathia. The novelty of their approach and results derives from the fact that they also introduce a hitherto neglected aspect, namely the effect of multilingualism on Hungarian language use, a topic which is a part of a larger research project 'The sociolinguistics of Hungarian outside Hungary'. (The aim of the comprehensive research, on the one hand, is to survey the sociolinguistic circumstances of minorities living in the neighbouring countries and, on the other, to uncover the stratification in the language use of these Hungarian minorities.) Based on a large set of linguistic data, the authors point out that there is a

significant difference between the language use of Hungarians with one mother tongue living in the homeland and that of multilingual Hungarians living in minority status. Also, they claim that, from a sociolinguistic point of view, the Hungarian minority in Subcarpathia is anything but homogeneous: as far as stratification is concerned, education and the type of residence are the two most important sociological variables, while the divisions based on gender and age turn out to be less significant.

Csaba Pléh and Péter Bodor's 'Linguistic Superego in a normative language community and the stigmatization hypercorrection dimension' places the problem of stigmatization and hypercorrection into a new, interesting context, analysing them within the framework of the so-called metaphoric psychological model. The authors show that Hungarians, a small linguistic community, can be characterized by a strong normative control, that is, the exclusive preference for the standard variety and the stigmatization of the non-standard varieties by language purism, and that this has the consequence that speakers get unsure with regard to grammaticality judgements of linguistic forms. (This was also demonstrated by the data of the 'Hungarian National Sociolinguistic Research' and other surveys.) As a result, the hesitant speaker does not dare to use the stigmatized form even when it is not only the appropriate one in the given context, but also when using something else results in an ungrammatical structure. According to the authors, what lies in the psychological background of this phenomenon (hypercorrection) is the fact that the linguistic norm system of the traditionally hierarchically structured society penetrates into the consciousness of the individual, and also prevails in his or her language use in a way that the more educated someone is, the more likely it is that hypercorrection is opted for. The authors in their explanatory psychological model thus extend the Freudean approach concerning sexuality and authority to the interpretation of the social variability of language use.

In her shocking article 'National feeling or responsibility: The case of the Csángó language revitalization', Klára Sándor shows why a 1990 experiment aiming to resurrect the Hungarian of the Csángós was inevitably doomed to fail both in Transylvania and in Hungary. The experiment was based on the "Csángó-myth" and it was launched without closely scrutinizing the real living conditions and culture of the Csángós and the factors defining their way of thinking, and with fake illusions. It was carried out without a pedagogical preparation and without sufficient funding—we are justified in stating that the experiment was surrounded with much irresponsibility. The experiment did not take into account either that—in addition to the fact that 75% of the Csángós speak Romanian as their native tongue —the Hungarian spoken by the Csángós and that spoken in the Carpathian Basin are so different from each other that it causes difficulties in the mutual understanding, and it may not be clear even for the Csángó people why they should be regarded as Hungarians if their language, history and culture are so distinct from those of the Hungarians. Referring to other researchers, Klára Sándor says that the only reason behind the whole experiment must have been political: the watchword 'save the Csángó people' seems to have been a profitable political agenda since the 90's. But in the author's opinion, politics ought not to back the ideal of a homogeneous Hungarian community, but ought to support linguistic and cultural plurality, the rights of the minorities and, most importantly, the actual improvement in the state of the Csángó people. The role of science is then to bypass the nationalist myths surrounding the Csángós and objectively uncover the real facts about these people and the ways of support that can be provided to them.

It is not the first time that sociolinguistics in East-Central Europe has voiced its opinion in international publications. Mouton de Gruyter published two special volumes with articles of a similar topic (*International Journal of the Sociology of Language 111. Hungarian*

Sociolinguistics, edited by Miklós Kontra and Csaba Pléh; as well as *When East Met West. Sociolinguistics in the Former Socialist Bloc*, edited by Jeffrey Harlig and Csaba Pléh, reviewed by Peter Trudgill in the issue of *Multilingua* reviewed here). These ground-breaking publications in English – together with the edition of *Multilingua* reviewed here – play a major role in, as Miklós Kontra puts it in his editorial note, narrowing the information gap that emerged between the East and the West during the era of the iron curtain. The fact that all three publications were edited (either partially or fully) by Hungarian scholars indicates the international recognition of linguistics in Hungary, and within it, Hungarian sociolinguistics.

Mária Ladányi

Genoveva Puskás: Word order in Hungarian. John Benjamins, Amsterdam/Philadelphia, 2000, 396 pp.

The book presents a systematic study of the left-periphery of the Hungarian clause. Its main objective is to provide a unified account for all the left-peripheral phenomena, in particular for the distribution of focused constituents, topicalized constituents, *wh*-constituents and negative constituents and for the interaction of these constituents with one another and with other elements of the clause. In order to achieve this goal, Puskás uses the split CP approach developed in Rizzi (1997) and argues for a highly articulated system of functional projections in the left-periphery.

In this study Puskás adopts the Lexico-Logical Form (LLF) framework of Brody (1995), a purely representational theory which has the advantage of getting rid of a redundancy inherent in any derivational framework: since movements and chains cover the same type of relations and chain-formation is independently motivated in syntactic representations, movement is redundant. In the LLF framework representations are constrained by features. The distinction between strong and weak features is captured in the following way: strong features can only be satisfied by overt categories while weak features can be satisfied by chains. In other words, strong features require the appearance of a contentive element in the head position of a chain, forming a primary chain. In the case of weak features a scope marker occupies the head of the chain and the contentive element appears at the foot of the chain, forming a secondary chain.

The book under review has the following structure. Chapter 1 is an introductory chapter that presents the necessary background assumptions and the LLF framework. In consecutive chapters Puskás considers the four constituent types that can appear in the left-periphery of the clause. Chapter 2 deals with Focus, Chapter 3 with Topic, Chapter 4 with *wh*-questions and Chapter 5 with sentential negation. Building on Haegeman (1991), Rizzi (1991) and Brody (1990), the author argues that a uniform well-formedness condition, formally stated as the AFFECT-criterion by Haegeman (1991), applies to each of these constituent types in the left-periphery:

(1) AFFECT-CRITERION
   (a) An affective operator must be in a Spec-Head configuration with an [affective] X.
   (b) An [affective] X must be in a Spec-Head configuration with an affective operator.

This generalised AFFECT-criterion has several instantiations. In particular, focused constituents must satisfy the FOCUS criterion, *wh*-constituents must satisfy the WH-criterion,

topics must satisfy the TOPIC-criterion and negative constituents must satisfy the NEG-criterion. Satisfaction of these criteria takes place in different functional projections, except for the FOCUS-criterion and the WH-criterion which are claimed to be satisfied in the same functional projection, namely in FP. The presence of each of these functional projections (FP, TopP, NegP) is independently motivated throughout the study. Based on the split focus-field approach developed in Kenesei (1986) and in Kálmán et al. (1986), Puskás postulates two additional functional projections above FP: QP for quantifiers and *Is*P for *is*-phrases.

In each chapter the reader is led through very detailed argumentations and a wealth of Hungarian data before the conclusions are reached. The argumentations follow the same logic in every chapter and their order of presentation has the same structure. This helps the reader to find his way in this 400-page book. During the discussion of a given phenomenon, the Hungarian facts are contrasted with data from other languages: Italian in Chapter 2, Italian, English, Greek and Bosnian in Chapter 3, Italian, English, Romanian and Slavic languages in Chapter 4 and Italian and West Flemish in Chapter 5. In addition, several previous analyses of similar phenomena are briefly summarised.

The main differences between Hungarian and these languages are claimed to follow from parametrising properties of the relevant functional heads along the following dimensions:

- whether the functional head carrying the relevant affective feature ([+ f]; [+ wh]; [+neg]) needs a contentive category to check its feature (i.e. whether the head has a strong feature)
- whether the functional head with the relevant feature morphologically licences a phrase in its specifier position
- whether multiple specifier positions can be projected and absorption can take place
- the orders of functional projections above VP
- whether rich morphology is present on the verbs

For space limitations, I will illustrate how the values of these parameters are determined and how these parameters are used to account for the empirical data.

Puskás follows Brody (1990) in assuming that a focused constituent in Hungarian occupies a separate projection, called FP. In order to account for the adjacency requirement between the focused element and the verb, Puskás proposes that focused constituents are inherently [+ f(ocus)] and that clauses containing a focused element have the feature [+ f] on the head T^0 and also on F^0. In addition, it is also supposed that the feature [+ f] is strong on F^0 in Hungarian, so it can only be satisfied by a contentive element. This means that the head of the chain in F^0 must be a contentive. Since by assumption T^0 also has the feature [+ f] and T^0 contains the lexical verb, a contentive element, the strong feature of F^0 can be satisfied if T^0 (i.e. the verb in it) appears overtly in F^0.

An independent checking relation is postulated in order to satisfy the FOCUS-criterion. Specifically, in Hungarian F^0 has the additional property of licensing a contentive element in its specifier. This has the effect of requiring the focused element to appear overtly in SpecFP. Although this derives the observed adjacency of the focused element and the verb, the reader may wonder why it is exactly the head T^0 that contains the feature [+ f]. In the present system it remains a stipulation. Puskás does not address the question whether there are any independent reasons that could motivate the presence of [+ f] on T^0. Of course, it may turn out that there are no such independent factors, but this question merits some investigation.

Further properties of the focused constituents are derived from the claim that focus chains are operator chains before they exhibit the properties of other operator chains. In

particular, Strong Crossover and Weak Crossover effects arise and parasitic gaps are licensed. Long focus-movement across a CP boundary is shown to be subject to the standard argument adjunct asymmetry observed for *wh*-phrases in other languages. This is accounted for by Rizzi's (1990) Relativised Minimality. Puskás demonstrates that in contrast with the standard assumption in the literature, long focusing across an embedded *hogy*-clause has to use SpecCP as an intermediate position in the chain. This can be seen from the fact that both adjuncts and arguments can move across an intervening relative trace which, by assumption, occupies SpecCP (cf. Rizzi 1997).

Finally, a special construction is considered where the pronominal *azt* appears in the matrix clause in SpecFP and the clause itself is interpreted as focused. Adopting the analysis proposed in Kenesei (1994), Puskás assumes that *azt* is an expletive that marks the scope position of its associate, the embedded clause.

The subsequent three chapters examine topic phrases, *wh*-phrases and negative elements from similar points of view:

- how the different instantiations of the AFFECT-criterion are satisfied
- whether the relevant feature on the functional head is strong or weak
- where movement of several phrases is allowed to the relevant specifier position
- whether Strong Crossover and Weak Crossover effects arise
- whether parasitic gaps are licensed
- whether argument-adjunct asymmetries arise in case of long movement
- whether long movement is subject to subjacency
- how topics interact with focused constituents and with *wh*-phrases
- how focused constituents interact with *wh*-phrases
- how multiple *wh*-questions and multiple negative elements are interpreted

In the case of topic phrases and *wh*-phrases the alternative strategy formed by the expletive elements *azt* and *mit*, respectively, is examined and an analysis parallel to the one proposed in the chapter on Focus is provided. Several similarities between focused constituents and *wh*-phrases are discussed and analysed. Puskás notices, however, that a complete identity between focused constituents and *wh*-phrases cannot be maintained. In particular, it is shown that in spite of the overlap between the FOCUS-criterion and the WH-criterion, the two criteria are independently motivated. In a footnote (p. 272, fn. 33) Puskás makes a tentative suggestion that it is possible that focus phrases and *wh*-phrases always occupy different structural positions in Hungarian. This difference is simply invisible in most cases for independent reasons. This is an interesting supposition and merits further investigation. Especially so because in the recent literature on Hungarian clause structure it is accepted wisdom that focused phrases and *wh*-phrases occupy the same functional projection.

As the above discussion suggests, this book provides a detailed investigation of several phenomena of the left-periphery in Hungarian and suggests possible accounts based on analyses that have been proposed in the literature for other languages. Therefore, I recommend this book to anyone who is interested in Hungarian and in issues concerning A′-chains and negation.

There are, however, some less advantageous aspects of this book that need to be mentioned. First, the structure proposed for Hungarian neutral sentences is questionable. On

the basis of the relative order of tense and agreement morphemes and the syntactic behaviour of the verbal particle which "intuitively do carry some aspectual import", Puskás assigns the following structure to neutral sentences with SVO word order (p. 93):

(2) $[_{\text{DefP}}$ Def $[_{\text{AspP}}$ Asp $[_{\text{TP}}$ T $[_{\text{AgrSP}}$ AgrS $[_{\text{AgrOP}}$ AgrO $[_{\text{VP}} \ldots]]]]$

It is assumed that the contentive copy of the verb appears in AspP, since "the V-features on Asp are strong". Puskás postulates the presence of an additional functional projection above AspP, in order to account for the SVO word order of neutral sentences. In these sentences, the subject cannot appear in SpecAgrS, it must occupy a position higher up. It sits in SpecDefP. SpecDefP licences specific subjects or in the author's words it "licences specificity or some kind of referentiality".

This structure for neutral sentences is used throughout the study. The status of DefP, however, remains unclear. The reader cannot see any specific difference between TopP and DefP apart from the stipulation that the former is above FP and is used for old information, while the latter is used for specific subjects and, later in the book, also for any kind of specific DP. The difference between FP and DefP is in fact questioned by the author herself as well in a footnote (p. 92, fn. 26), where it is stated that this DefP could be analyzed as a lower TopP, as topic is understood as "specific of some kind". Given this remark, the difference between TopP and DefP seems to disappear.

A further problem with the status of DefP is connected to the fact that there are neutral sentences with SVO word order in Hungarian where a non-specific subject precedes the verb. Given that SpecDefP can only host specific subjects and that the verb appears in AspP, the word order in (3) cannot be derived on the assumptions of the book.

(3) Egy gyerek virágot szed a kertben.
a child flower picks the garden-in
'A child (non-specific) is picking flowers in the garden.'

Thus, DefP does not seem to solve the problem for which it was originally postulated.

Second, the discussion in Chapter 3 contains several unspecified notions of the following type: "some kind of stress", "some kind of comma intonation", "some kind of specificity", "some kind of referentiality". Unfortunately, it is not clarified what is meant by these tentative phrases.

Third, one of the claims in Chapter 3 is questionable on the basis of empirical data. Puskás claims that in Hungarian a topicalized phrase requires the presence of a focused constituent or some other element of the "focus field". This constraint on the appearance of TopP is claimed to be a structural one and not a semantic one. The exact nature of this structural requirement is not specified, however. Puskás shows that it cannot be a semantic constraint since in other languages topicalized phrases can appear in the left-periphery of the clause without any phrase being focused. She gives examples from Italian and from English.

Example (4) (Puskás's example (58) in Chapter 3) is claimed to be ungrammatical, because a topicalized element is followed with SVO word order without any phrase bearing focus stress.

(4) *$[_{\text{TopP}}$ Attilát $[_{\text{DefP}}$ Zeta $[_{\text{AspP}}$ látta az esküvő előtt]]]
Attila-acc Zeta-nom saw the wedding before
'Zeta saw Attila before the wedding.'

This sentence is grammatical, with *Attila* and *Zeta* interpreted as the topic. The verb bears the main stress of the sentence, not because it is focused but because the Nuclear Stress Rule in Hungarian assigns the main stress to the leftmost element of the predicate phrase (see É. Kiss 1994). In the analysis of the left-periphery of the Hungarian clause structure it has always been assumed that optional topic phrases precede the predicate phrase (É. Kiss 1987, 1992, 1994, among others). Whether the predicate phrase contains a focused element is a separate issue. To my knowledge, there are no arguments to the contrary.

I believe that Puskás' claim about the obligatory appearance of FP if TopP is projected stems from imprecise uses of the term *focus*. Puskás defines topic exclusively on the basis of information structure. Topics express old information. In case of focus, however, two definitions are given. The interpretative property of focus is taken to be "exclusion by identification": a given element is selected as a unique entity from an abstract set. This element is characterized by the feature [+ focus]. The other characteristic property of focus that Puskás gives is based on the information structure of the sentence. Focused elements express "new information". These two understandings of focus, however, are not interchangeable. As discussed in Kenesei (1998), in the linguistic literature the term *focus* has been understood in different ways. The informational structure of categorical statements can be split into a topic and a comment. The segment corresponding to the comment is often called presentational focus. Another type of focus is discussed in É. Kiss (1998). A constituent identifying the variable in a question is called information focus. In addition to these two types of non-exclusive focus, we can distinguish another type of focus that has contrastive (exclusive) interpretation. One of Puskás' definitions ("exclusion by identification") refers to this type of focus. The other definition ("new information"), however, corresponds to presentational focus. These two types of focus are not only semantically different but also exhibit distinct syntactic and phonological behaviour. Furthermore, presentational focus does not imply the presence of exclusive focus (for detailed discussion see Kenesei 1998). The following examples illustrate the difference.

(5) *[$_{\text{TopP}}$ A mozi után [$_{\text{VP}}$ megvárta Zetát Emőke]].
the movie after waited Zeta-acc Emőke-nom
'After the movie Emőke waited for Zeta.'

(6) [$_{\text{TopP}}$ A mozi után [$_{\text{FP}}$ MEGVÁRTA Zetát Emőke]].
'After the movie Emőke WAITED for Zeta.'

(5) is a categorical statement that exemplifies what Puskás argues to be ungrammatical in Hungarian. The topic is followed by the comment, which is the predicate phrase with the main stress of the sentence falling on the leftmost constituent, namely on the verb.

As a final remark, it would have been welcome if the author had paid more attention to Hungarian orthography. Given that the book provides a convenient source of Hungarian data for non-native speakers, it is unfortunate that so many mistakes appear in the book (e.g., *Emőke*, not *Emöke*, *esküvő* 'wedding', not *eskövö*, *őt* 'him', not *öt* (which happens to mean 'five'), *győz* 'wins', not *gyöz*, *veszélyes*, not *veszéjes* etc.). In some other cases it is not only orthography that is violated, but improper words are used (e.g., *általánosan* instead of *általában* 'generally') and ungrammatical examples are provided as grammatical (e.g., Chapter 1, ex. (91b,c); Chapter 5, ex. (71), (72c)).

Ildikó Tóth

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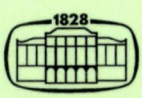

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GUEST EDITOR'S NOTE

The papers presented in this volume constitute the first instalment of a thematic issue of *Acta Linguistica Hungarica* on historical linguistics, published in two parts (see Volume 49, Number 1 for the second part). It is a welcome development that, after the 'seven lean years' that this area of linguistics has recently gone through, there is now a renewed interest in historical linguistics.

An example of how linguistic theory and (historical) linguistic reality may be reconciled is provided by a phonological paper included here that describes postalveolar assimilation in the imperative of *t*-final verbs in Hungarian (Forgács).

Historical linguistic research in the past few decades in Hungary was primarily aimed at publishing comprehensive works written by large teams of authors. These works include *A magyar nyelv történeti nyelvtana* [A historical grammar of the Hungarian language] (the three volumes published so far covering the history of the language from the beginnings to the end of the Old Hungarian period); *Etymologisches Wörterbuch des Ungarischen*; *A magyar nyelvjárások atlasza* [Atlas of Hungarian dialects]; *A romániai magyar nyelvjárások atlasza* [Atlas of Hungarian dialects in Romania]. The rest of the papers of the present volume are more or less closely related to these — as the authors are all contributors to one or several of the above works.

Three papers deal with the historical morphology of Hungarian.

That on the morphology of stems is primarily interesting for its methodological innovation in that it does not study stems and their changes in isolation, but rather in terms of their interaction with suffixal morphemes attached to them. The author also takes sides in a much-debated terminological issue (stem-final vowel vs. linking vowel vs. suffix-initial vowel) in view of the relevant historical changes (Zelliger).

Within the conjugation paradigm, one paper investigates the origin of the person/number suffixes of present indicative singular indefinite forms (Abaffy). The author argues against deriving these from earlier participial suffixes (a view that was advocated in the literature). Her arguments are rather complex, but one methodological theorem she emphasises is that present-day linguistic data and their relative frequencies of occurrence should not be used as evidence for changes in early periods of the history of the language.

Akadémiai Kiadó, Budapest

A historical morphological paper integrating linguistic geography based on *A magyar nyelvjárások atlasza* and *A romániai magyar nyelvjárások atlasza* presents a novel approach to the origin and irregularity of person/number suffixes of present indicative and conditional first person plural (Juhász). The author's theoretical claims concern the relationship between spatial and temporal aspects of language, the convertibility of the former to the latter.

Another paper covers the boundary region between historical syntax and text grammar, analysing reporting main clauses in direct, linked direct, and indirect speech (Dömötör). The author investigates a number of aspects of what linguistic elements and what grammatical regularities may have participated, in the earliest periods of Hungarian, in the expression of the contents of reported material.

Finally, etymology and lexicography are also represented in the volume. In a background study to the first Hungarian etymological dictionary published in a foreign language (EWUng.), the lexicographical treatment of various groups of onomatopoetic vocabulary is discussed, in terms of the system set up, and practice followed, by EWUng. in this respect (Horváth). The author means this paper to be a preliminary discussion of material he intends to cover in forthcoming comparative studies presenting a theory of onomatopoeia.

The majority of the papers in this volume appear in German, a language that is still dominant in the international literature on historical linguistics.

Lea Haader

LIST OF ABBREVIATIONS

AkH. = *A magyar helyesírás szabályai* [The rules of Hungarian spelling]. 11th edition. Akadémiai Kiadó, Budapest, 1984.

An. = Anonymus, *Gesta Hungarorum* (around 1200).

ApMélt. = *Könyvecse az szent apostoloknak méltóságokról* [A little book on the honour of the Holy Apostles] (1521).

AporK. = *Apor-kódex* (after 1416/around 1490).

BécsiK. = *Bécsi Kódex* (after 1416/around 1450).

BirkK. = *Birk-kódex* (1474).

BodK. = *Bod-kódex* (around 1520).

BogA. = Bogáti Fazekas, Miklós, *Széphistória az tökéletes asszonyállatokról* [Lay on the perfect woman beasts] (1577).

BornÖrd. = Bornemisza, Péter, *Ördögi kísértetek* [Evil ghosts] (1578).

BUNy. = Hajdú, Péter, *Bevezetés az uráli nyelvtudományba* [Introduction to Uralic linguistics]. 2nd edition. Tankönyvkiadó, Budapest, 1973.

CornK. = *Cornides-kódex* (1514 1519).

CzechK. = *Czech-kódex* (1513).

DebrK. = *Debreceni Kódex* (around 1519).

DöbrK. = *Döbrentei-kódex* (1508).

ÉKsz. = Juhász, József Szőke, István–O. Nagy, Gábor–Kovalovszky, Miklós (eds), *Magyar értelmező kéziszótár* [A concise dictionary of definitions of Hungarian]. Akadémiai Kiadó, Budapest, 1972.

EnyG. = Enyedi, György, *Gismunda és Gisquardus históriája* [The story of Gismunda and Gisquardus] (1577).

ÉrdyK. = *Érdy-kódex* (1524–1527).

ÉrsK. = *Érsekújvári Kódex* (1529–1531).

ÉrtSz. = *A magyar nyelv értelmező szótára I–VII* [A dictionary of definitions of Hungarian]. Akadémiai Kiadó, Budapest, 1959 1962.

EWUng. = Benkő, Loránd (ed.), *Etymologisches Wörterbuch des Ungarischen I–III.* Akadémiai Kiadó, Budapest, 1993–1997.

GuaryK. = *Guary-kódex* (before 1495).

GyS. = *Gyulafehérvári Sorok* [Lines from Gyulafehérvár] (the second half of the 13th century).

HB. = *Halotti Beszéd* [Sermo super sepulchrum] (the end of the 12th century).

HBK. = *A Halotti Beszédet követő Könyörgés* [The Prayer following Sermo super sepulchrum] (the end of the 12th century).

HeltR. = Heltai, Gáspár, *A részegségnek és tobzódásnak veszedelmes voltáról való dialógus* [Dialogue on the dangers of drunkenness and carousal] (1552).

HeltV. = Heltai, Gáspár, *Vigasztaló könyvecske* [A comforting little book] (1553).

HorvKr. = Horváth, Gergely, *Az Krisztus testének ... jelen voltáról* [On the present existence of Christ's body] (1587).

ItK. = *Irodalomtörténeti Közlemények* [Studies in the History of Literature] (journal).

JókK. = *Jókai-kódex* (after 1372/around 1448).

JordK. = *Jordánszky-kódex* (1516–1519).

KárK. = Károlyi, Gáspár, *Két könyv* [Two books] (1563).

Károlyi = Károlyi, Gáspár, *Szent Biblia* [Holy Bible] (1590).

KazK. = *Kazinczy-kódex* (1526–1541).

KeszthK. = *Keszthelyi Kódex* (1522).

KT. = *Königsbergi Töredék* [Königsberg Fragment] (the beginning of the 13th century).

KTSz. = *Königsbergi Töredék Szalagjai* [Stripes of Königsberg Fragment] (the beginning of the 13th century).

KulcsK. = *Kulcsár-kódex* (1539).

LobkK. = *Lobkovitz-kódex* (1514).

MargL. = *Margit-legenda* [Margaret legend] (1510).

MMNyjR. = Imre, Samu, *A mai magyar nyelvjárások rendszere* [The system of modern Hungarian dialects]. Akadémiai Kiadó, Budapest, 1971.

MNy. = *Magyar Nyelv* [Hungarian Language] (journal).

MNyA. = Deme, László–Imre, Samu (eds), *A magyar nyelvjárások atlasza I–VI* [The atlas of Hungarian dialects]. Akadémiai Kiadó, Budapest, 1968–1977.

MünchK. = *Müncheni Kódex* (after 1416/1466).

NádK. = *Nádor-kódex* (1508).

NagyszK. = *Nagyszombati Kódex* (1513).

Népr. és Nytud. = *Néprajz és Nyelvtudomány* [Ethnography and Linguistics] (journal).

NévtÉrt. = *Névtani Értesítő* [Journal of Onomastics] (journal).

NyK. = *Nyelvtudományi Közlemények* [Proceedings in Linguistics] (journal).

Nyr. = *Magyar Nyelvőr* [Journal of Cultivating the Hungarian Language] (journal).

NytudÉrt. = *Nyelvtudományi Értekezések* [Papers in Linguistics] (series).

ÓMS. = *Ómagyar Mária-siralom* [Lamentations of Mary in Old Hungarian] (the middle of the 13th century).

ON = place name.

PatE. = Pataki Névtelen, *Eurialus és Lucretia* [Eurialus and Lucretia] (1577).

PeerK. = *Peer-kódex* (around 1518).

PéldK. = *Példák Könyve* [Book of apologues] (1510).

Pesti = Pesti, Gábor, *Új testamentum magyar nyelven* [The New Testament in Hungarian] (1536).

PestiE. = Pesti, Gábor, *Esopus fabulái* [Aesop's fables] (1536).

PN = personal name.

RMNy. = *Régi magyarországi nyomtatványok* [Old Hungarian prints]. Akadémiai Kiadó, Budapest, 1971.

RMNyA. = Murádin, László (collector) Juhász, Dezső (ed.), *A romániai magyar nyelvjárások atlasza* I V [The atlas of Hungarian dialects in Romania]. Magyar Nyelvtudományi Társaság, Budapest, 1995 1999.

SándK. = *Sándor-kódex* (around 1518).

Sylvester = Sylvester, János, *Új Testamentum* [New Testament] (1541).

SzékK. = *Székelyudvarhelyi Kódex* (1526–1528).

SztárÉ. = *Sztárai Mihály énekei (Huszár Gál-énekeskönyv)* [The songs of Mihály Sztárai (Gál Huszár Songbook)] (1574).

SztárIg. = Sztárai, Mihály, *Igaz papságnak tüköre* [The mirror of true priesthood] (1559).

SztárIl. = Sztárai, Mihály, *Szent Illyésnek ... idejében lött dolgokból* [Events from the time of St. Elias] (Hofgreff Songbook, 1554 1555).

TA. = *A tihanyi apátság alapítólevele* [The deed of foundation of the Abbey of Tihany] (1055).

TelK. = *Teleki-kódex* (1531).

TESz. = Benkő, Loránd (ed.), *A magyar nyelv történeti-etimológiai szótára I–IV* [A historical-etymological dictionary of the Hungarian Language]. Akadémiai Kiadó, Budapest, 1967–1984.

TihK. = *Tihanyi Kódex* (1532).

TNyt. = Benkő, Loránd (ed.), *A magyar nyelv történeti nyelvtana I, II/1, II/2* [A historical grammar of Hungarian]. Akadémiai Kiadó, Budapest, 1991, 1992, 1995.

UNyA. = Hajdú, Péter, *Az uráli nyelvészet alapkérdései* [Fundamental issues in Uralic linguistics]. Tankönykiadó, Budapest, 1981.

UEW. = Rédei, Károly (ed.), *Uralisches etymologisches Wörterbuch I–III.* Akadémiai Kiadó, Budapest, 1986–1991.

Úsz. = Varga, Endre (ed.), *Úriszék. XVI–XVII. századi perszövegek* [Manorial court. Texts of lawsuits from the 16th–17th century]. Akadémiai Kiadó, Budapest, 1958.

VásI. = Vásárhelyi, Gergely, *Imádságok* [Prayers] (1599).

VirgK. = *Virginia-kódex* (before 1529).

WeszprK. = *Weszprémi-kódex* (around 1512).

WinklK. = *Winkler-kódex* (1506).

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ON THE ORIGIN OF HUNGARIAN VERBAL NUMBER AND PERSON MARKERS: SOME CONTROVERSIAL ISSUES*

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Abstract

In this paper, the author discusses some recent claims with respect to the history of the Hungarian conjugation system, in particular, that of the number and person markers indefinite 1sg *-k*, indefinite 2sg *-sz*, *-l*, and 3sg *-n*, as well as 1pl *-uk/-ük*, *-unk/-ünk*. She suggests that, while a hypothetical participial origin for *-sz* and *-l* cannot be absolutely dismissed, another hypothesis concerning the participial basis of the *u/ü* of 1pl *-uk/-ük*, *-unk/-ünk* is made rather untenable by certain facts of the history of Hungarian.

1. The history of the Hungarian conjugation system has been in the foreground of interest for more than a century now. With respect to the origin of number and person markers, there has been general consensus for quite some time on the claim that many of these markers go back to personal pronouns (*kére-m* 'I ask for it', *kére-d* 'you ask for it', *kér-i* 'he/she asks for it', etc.). Another generally accepted claim is that ∅-suffixed stems (i.e., the bare stem, as well as the stems suffixed (only) for mood or tense) have also been integrated into the verbal paradigm (*kér* 'he/she asks for sg', *kérj* 'ask for sg (imp.)', *kérne* 'he/she would ask for sg', *kért* 'he/she asked for sg').

However, with respect to the number and person markers that are outside these two groups, that is, indefinite 1sg *-k*, indefinite 2sg *-sz*, *-l*, and 3sg *-n*,

* The Hungarian version of this paper was published in 1991 in the journal *Magyar Nyelv* (87:385–93), challenging, on several counts, Károly Rédei's claims on the origin of Hungarian verbal number and person markers made in 1989 in *Journal de la Société Finno-ougrienne* (82:193–209). The present author thinks that it is rather important for her views to be available in English, especially since Rédei subsequently accepted several of her arguments in his reply to her article published in 1995 in *Nyelvtudományi Közlemények* (94:153–7). Given that Rédei's latter article is expected by the present author to be also published, sooner or later, in *JSFOu*, her original 1991 paper is presented here in an unrevised English version.

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a number of conflicting claims have been made so far. The etymologies still considered possible (i.e., those not refuted after they had been proposed) are as follows. The *-k* of 1sg was identified with the nominal plural marker *-k* by Gombocz (1930, 12) and by a number of researchers since then (Horger 1931, 10, 63; Papp 1950, 15–27; Rédei 1962, 427–8, etc.; cf. Benkő 1980, 236). Another widely held view is that *-k* was originally a deverbal noun forming suffix (that is still found in words like *rejtek* 'recess', *vétek* 'sin', *hajlok* 'shelter'). This is the explanation given by Pais (1931, 142–3), Juhász (1939, 282), Sámson (1951, 229–34), and Berrár (1957, 53). Finally, Moór (1950, 252–3) and Benkő (1980, 237) take this marker to go back to an instantaneous suffix.

The *-sz* of 2sg has been taken to be the reflex of a frequentative suffix since Budenz (1884, 345), and similarly *-l* since the 1930s (Juhász 1939, 284; Berrár 1957, 52; Hajdú 1966, 144; Nyíri 1973, 145–50; Benkő 1980, 238; Bárczi 1982, 92–4, 100–1).

The *-n* of 3sg has, until very recently, been claimed to go back to a participial suffix (Szinnyei 1903, 243; 1916, 227; Berrár 1957, 53; Rédei 1962, 423; Hajdú 1966, 144; Bárczi 1982, 134–5). (With respect to all of the above claims, cf. Abaffy 1991, 122–60.)

2. In recent years, two radically new views have been proposed as alternatives to the foregoing. As early as in his 1980 book, Loránd Benkő offered a unified account of the suffixes concerned: he claimed all of them to go back to deverbal verb forming suffixes. He analysed *-sz* and *-l* as reflexes of former frequentative suffixes (Benkő 1980, 244–5), whereas *-k* (ibid. 235–7) and *-n* (ibid. 241–8) as those of instantaneous suffixes, being the very first to propose the latter explanation.

Rédei (1989) offers a new hypothesis. Somewhat surprisingly, he fails to mention Benkő's solution that has been available in a book format since 1980. Nevertheless, he also tries to account for the origin of all these suffixes in a unitary manner: he claims all of them to be deverbal noun forming/participial suffixes reinterpreted as verbal number and person markers. As we just saw, this view is not unprecedented with respect to *-k* and *-n*. What is completely new, however, is that he takes *-sz* and *-l*, having been thought to go back to frequentative suffixes so far, to come from participial suffixes (202–5); on the other hand, he also tries to identify a participial suffix in the *u/ü* of 1pl *-uk/-ük*, *-unk/-ünk*, thought to be a stem-final vowel by everybody else. He contends that this is not a functionless portion of these forms but rather the reflex of the participial suffix **-w* (conventionally written as **-β* in the Hungarian tradition) (201–2).

The main reason why Rédei tries to account for these number and person markers as originating in deverbal noun forming suffixes is that the three types of verbal number and person suffixes, (a) those coming from personal pronouns, (b) the ∅ suffix, and (c) those based on deverbal nouns, are also to be found in other Finno-Ugric languages. In his opinion, this fact supports the claim that Hungarian number and person markers, even if their consolidation took place during the separate life of this language, are part of the ancient, Uralic/Finno-Ugric heritage of Hungarian (205–6).

It must be admitted that no irrefutable arguments can be found to support either the deverbal nominal or the deverbal verbal origin of these suffixes; in the Ancient Hungarian system of derivational suffixes, in fact, they occurred in both roles: *-sz*: *kopasz* 'bald', *eresz* 'eaves'; *tetszik* 'appear', *játszik* 'play'; *-l*: *fonal* 'thread', *halál* 'death'; *dobál* 'throw', *nől* 'grow'; *-n*: *vagyon* 'fortune', *haszon* 'benefit'; *pattan* 'crack', *dobban* 'throb'; *-k*: *vétek* 'sin', *ajándék* 'present'; *sikolt* 'scream', *rikolt* 'shout'. Therefore, the issue has to be settled by other types of arguments.

It is generally agreed by Hungarian historical linguists that exactly the number and person markers at hand, integrated into the general (indefinite) conjugation system, came into being during the separate life of Hungarian, a long time after it had become isolated from the other Finno-Ugric languages, as part of the process whereby the *ik*-conjugation, the definite conjugation, and the general conjugation were formed as three separate systems. Thus, Uralic/Finno-Ugric parallels are not a particularly compelling argument.

What also makes it difficult to accept Rédei's suggestion is that, in his view, *-sz* and *-l* turned into number/person markers via a stage of nominal predicatehood: *-sz* was originally a participial suffix that first appeared in the third person, and then – via a nominal stage– spread onto the other persons as well: *tëszëk* 'I put', *tëszël* 'you put', *tësz* 'he/she puts', etc. (204-5).

This would make the assumption necessary that in Hungarian, even as late as the Ancient Hungarian period, first and second person nominal predicates were in general use. However, this has so little evidence to support it that Rédei's hypothesis is thereby quite undermined. Formerly ambivalent noun-verb categories may well have developed their word class specific, clearly separable formatives by Ancient Hungarian times. Therefore, we have to agree with Benkő in that "With the separation of the systems of conjugation, there was a growing need for person marking. To satisfy it, it must have been a lot more natural for verb forming suffixes (cf. also the cases of *-sz* and *-l*) to be reinterpreted as person markers than it was for noun forming suffixes. This is especially so given the fact that this process took place in some part of

the Ancient Hungarian period when the separation of the classes of verbs and nominals was well under way already" (Benkő 1980, 237).

3. Let us consider the above claims concerning *-n*, *-sz*, and *-l* one by one first. The 3sg marker *-n* could, in fact, be derived from a deverbal nominal predicate; I would not think this impossible myself. In particular, the idea would be that speakers reinterpreted the ending of this nominal predicate as a verbal person marker. However, with respect to exactly this suffix, Benkő gives a number of good arguments that it cannot have been a noun forming suffix (ibid. 239–40). The word *vagyon* 'fortune, possessions' that is customarily cited as a case in point, is a late formation, since the word for 'fortune' was *vagy* even in the *Hussite Bible*; and there is no evidence whatsoever for the former verbal character of the roots of *biz-ony* 'certainly', *has-on* 'similar', *hasz-on* 'benefit'. Benkő thinks that *-n* originates in an instantaneous suffix that may have turned into a person marker in the imperative (where it occurs invariably and since ancient times): in this derivational suffix, as well as in its cognates in other languages, "the idea of beginning an emphatic action is clearly involved. This function was very appropriate for the expression of imperativity" (ibid. 244).

4. The suggested participial origin of 2sg *-sz* is also doubtful for several reasons. Beginning with Györke (1941–1943, 54–63), a number of researchers claim (cf. Bárczi 1958, 54; Hajdú 1966, 73) that verbs of the *tëszën : tőn* 'he/she does : did' type may have belonged to the ancient system that can be observed in certain Samoyedic languages even today, a system in which verbs denoting completed action (perfectivity) may express past tense without an overt tense marker and mark their present forms, in turn, with a frequentative suffix; whereas verbs with a continuous basic meaning express present tense without a tense marker and take an instantaneous suffix to produce their past tense forms.

Rédei now modifies this claim—that he also accepts—such that in the group of Hungarian verbs belonging here (*tësz* 'do, put', *lësz* 'will be', *vësz* 'take', etc.) it was not a frequentative suffix but rather the participial suffix **-ś* that may have expressed present tense; first in the third person only, and then spreading onto other persons as well. But if one accepts this, should one not also ask if this participial suffix is not identical with the ancient participial suffix **-ś* that underlies the past tense suffix of a number of Finno-Ugric languages (Rédei 1989, 196)? But then, how is this compatible with the role of *-sz* expressing present tense in verbs like *tëszën : tőn*?

A number of positional arguments also speak against taking this suffix to be a participial ending first appearing in the third person singular and then

spreading onto other persons via a nominal predicate stage. First of all, it has to be stated that there was no paradigm in Ancient Hungarian, and not even in Old Hungarian, of the kind that Rédei (who always bases his arguments on present-day forms) brings up: there was no *tëszëk, tëszël, tësz*, but rather *tëszëk* 'I put', *tësz* (later *tész*, occasionally *tëszësz*) 'you put', *tëszën* 'he/she puts': BécsiK. 320: *vezec* 'I take', 257: *èluez* 'you take away', 247: *vezen* 'he takes'; MünchK. 96va: *tẹ́ʒec* 'I put', 86vb: *tẹ́ʒ* 'you put', 27va: *tẹ́ʒen* 'he puts'; TelK. 33: *lezőc* 'I will be', 27: *lez* 'you will be', 5: *lezőn* 'it will be'; PeerK. 190: *Hyzek* 'I believe'; WinklK. 284: *hyz* 'you believe', 323: *hyzọn* 'he believes'; BécsiK. 228: *vizec* 'I carry'; TihK. 18: *be uiz* 'you carry in'; PéldK. 73: *vyzen* 'he carries'; etc. (see p. 317 of the present volume for a key to the abbreviations of sources). I think that this is not a case of nominal spread from 3sg but rather that of the simultaneous appearance of frequentative *-sz* in the whole paradigm (of the present tense of these verbs). In verbs of the *tëszën : tőn* type, the 3sg form had an *-n* suffix for systemic reasons (Benkő 1980, 245–6; Abaffy 1982, 424). Given that 3sg had a person suffix, 2sg can have remained unsuffixed for person. Therefore, for nearly 1000 years from Early Ancient Hungarian onwards, the present tense paradigms of these very frequent verbs belonging to the core vocabulary of the language were such that in 2sg *-sz* occurred in them at the end of the word. In my view, it was exactly here, in this invariably word final position of 2sg forms that *-sz* was reinterpreted as a 2sg number/person marker. This reinterpretation was facilitated by the fact that speakers at that time may have taken the *-sz* in sets like *të-sz-ëk* 'I put', *të-sz* 'you put', *të-sz-ën* 'he/she puts', *të-het* 'he/she may put', *të-tt* 'he/she put', *të-(n)ni* 'to put' to be a separable formative. This assumption is further corroborated by the fact that this formative, turning into a number/person marker of the present tense paradigm, exclusively occurred in present tense forms of other verbs, too (Abaffy 1982, 424).

5. In the discussion of 2sg *-l*, as elsewhere, Rédei's method of basing his conclusions on the **present-day distribution** of this number/person marker is misleading, hence methodologically objectionable. Rédei writes: "Untersuchen wir zuerst die Endung *-l*. Die auf *s, sz, z* auslautenden *-ik*-losen Verba erhalten im Präsens das Personalsuffix *-l*: *ásol, tëszël, fűzöl*. Dasselbe Suffix befindet sich auch in den *-ik*-verben: *ëszël, iszol*. Auch im Perfekt und im Konditional kommt das *-l* vor: *vártál, kértél, várnál, kérnél*. Im Imperativ drückt das *-ál/-él* einen weniger strengen Befehl aus: *várjál, kérjél*. Das *-l* ist also in der subjektiven Konjugation in allen Modi und Tempora verbreitet" (Rédei 1989, 202).

However, if we want to say something about the origin of a form **in Ancient Hungarian**, it is a lot more recommendable to refer to Old Hungarian data, amply available in codices and other sources of that period. In fact, such data suggest a totally different state of affairs. As it turns out, in 16th century codices, exclusively *-sz* (rather than -l) is found in present indicative forms of *s, sz, z*-final verbs, too: MünchK. 107ra: *kèreſz* 'you look for sg'; WinklK. 298: *kerezz* 'you look for sg'; also in private letters: before 1526: *kerez* 'you look for sg' (cf. MNy. 1948, 158); BécsiK. 235: *èluèz : peribis* 'you perish'; BodK. 15: *el vezz* 'you perish'; GuaryK. 30: *ʒidalmaʒh* 'you abuse'; SzékK. 342: *niz* 'you watch'; etc. That is, **until the end of the Old Hungarian period**, in present tense forms of non-*ik* verbs, the suffix for 2sg was **always** *-sz*. On the other hand, in the same period, the following types of occurrences of the *-l* suffix were recorded in great numbers: BécsiK. 20: *lé èſël* 'you fall down'; WeszprK. 97: *ky muloth* 'you die'; GuaryK. 30: *ʒo̩no̩l* 'you cease'; etc. Thus, an important feature of the suffix *-l* is that **in the present tense** it originally **only occurs in *ik*-verbs** (but there it occurs even after *l*). The same applies to the imperative: BécsiK. 5: *égèl* 'burn!', 6: *o̩lto̩zièl* 'get dressed!'; WinklK. 116: *fogÿjatkozÿjaal* 'diminish!'; CzechK. 53: *Meeltoltassaal* 'deign!'; 1524: *Thartozzal* 'belong!' (cf. MNy. 1918, 122) etc. In non-*ik* verbs, *-l* occurred but very sporadically in imperative forms; the spread of the type *várjál* 'wait!', today in general use, is a rather late phenomenon. (That spread started in a reasonable position, in medial verbs; cf. Abaffy 1984, 159 61.) A possible explanation for the emergence of *-l* in past and conditional forms of non-*ik* verbs is that *-sz*, because of its origin, was so closely associated with the present tense that in the paradigms of *kéré* 'asked', *látá* 'saw', *kérné* 'would ask', *látná* 'would see', the only possible choice for 2sg was *-l*.

6. At any rate, the origin of the suffix *-l* is to be looked for where it was in a functionally prominent position: in the present tense where it exclusively attached to *ik*-verbs.

I think there are no irrefutable arguments to support the claim that this *-l* should be derived from the participial suffix of *fonal* 'thread', *kötél* 'rope', *fedél* 'lid', *lepel* 'veil', generally from a suffix with the function of nomen instrumenti as Rédei (1989, 203) suggests, via a nominal predicate in 2sg, too. Neither do I think that *-l* is a former frequentative suffix that has turned into a number/person marker going through a stage of present tense marker. What I am looking for is a role of *-l* that explains its integration into the *-ik* paradigm.

Valéria M. Korchmáros was the first to raise the idea that the number/person marker *-l* should be taken to go back to *-l* as a reflexive suffix

(Korchmáros 1973-1974, 164). I think this idea is worth considering. We know that the *-ik* conjugation was primarily a means of formally marking medial verbs: *tör* 'break' : *törik* 'get broken', *érez* 'feel' : *érzik* 'is felt', *hall* 'hear' : *hallik* 'is heard', etc. In the same function, we find *-l* ever since Ancient Hungarian in verbs like *hűt* 'chill' : *hűl* 'get chilled', *ont* 'shed' : *omol* 'moulder', *önt* 'pour' : *ömöl* 'get poured' (items of the type *omol, ömöl* joined the *-ik* class as *omlik, ömlik* at a very late stage!); this function, the marking of mediality, was bestowed on *-l* even more clearly in the contrast of *-ít* vs. *-ul/-ül* as in *feszít* 'make taut' : *feszül* 'become taut', *rándít* 'sprain' : *rándul* 'be sprained', *szépít* 'make beautiful' : *szépül* 'get beautiful', etc. (Abaffy 1981, 28–32).

The regularity coming from ancient times that there is complementarity between verb classes of a medial meaning, those ending in *-ik* and those ending in *-ul/-ül*, is still valid: the two classes do not overlap, i.e., the suffix *-ul/-ül* is never followed by *-ik*. These two are the most typical exponents of mediality.

Therefore, it is possible to assume that, along with the well-established 3sg marker *-ik*, another verb ending going back to a mediality marker was to turn into the number/person marker of 2sg. The *-l* of verbs like *hűl, omol, romol* 'deteriorate', as well as of the medial suffix *-ul/-ül*, may have been ideally suited for the task.

Of course I admit that it is not only Rédei's participial suffix idea but also my claim that both 2sg markers go back to verb forming suffixes is hypothetical. However, whereas Rédei's assumption is only backed up by a parallel with Uralic/Finno-Ugric number/person markers, the explanation of Hungarian historical linguists summarised here is rather based on arguments internal to the verbal system of Ancient Hungarian. And perhaps with better reason.

7. While a **hypothetical** participial origin for *-sz* and *-l* cannot, after all, be absolutely dismissed, Rédei's other hypothesis concerning the participial basis of the *u/ü* of 1pl *-uk/-ük*, *-unk/-ünk* has to face some facts of the history of Hungarian that make the latter claim quite untenable.

Let us consider Rédei's comment on the suffixes mentioned: "Aller Wahrscheinlichkeit nach steckt auch in folgenden Formen der 1. Pl. der objektiven Konjugation ein Partizipsuffix: *várjuk, kérjük* (Präsens), *vártuk, kértük* (Perfekt), *várók, kérők* (Präteritum), *várnók, kérnők* (Präsens des Konditionals). Der labiale Vokal dieser Personalsuffixe weist darauf hin, daß in ihnen ein element **w* (< **-pa/*-pä*) geschwunden ist. Ich halte dieses **w* identisch mit dem Vorgänger **w* des ungarischen Partizipsuffixes *-ó/-ő* (≈ *-ú/-ű*). Das **w* ergab während der urungarischen Periode infolge von Vokalisierung zuerst einen Diphthong *o̯u/u̯u, ëü/iü/üü*, und später einen langen Vokal *ó/ő, ú/ű*.

Der Vokal *ó/ő* wurde bis zum heutigen Tag bewahrt, der Vokal *ú/ű* wurde aber am Ende der urungarischen bzw. am Anfang der altungarischen Periode abgekürzt. (Hinsichtlich der frühen Abkürzung *ú/ű* > *u/ü* s. Bárczi 1958, 86.) Die Entwicklung der Personalsuffixe *-uk/-ük*, *-ók/-ők* rekonstruiere ich folgenderweise: (Präsens) **várs + jз + wз + k / *kérs + jз + wз + k* ≫ *várjuk/kérjük* (das *j* ist ein Element der objektiven Konjugation, das auslautende *k* ist mit dem Pluralzeichen identisch); (Perfekt) **várts + wз + k / *kértз + wз + k* ≫ *vártuk/kértük* ... Das **w* > **u̯/*ü̯* ist nicht mehr in der verbalnominalen Rolle, sondern als Element der Personalsuffixe *-uk/-ük* ... in ... Perfekt hineingeraten. Auch der labiale Vokal im Personalsuffix *-unk/-ünk* der 1. Pl. der subjektiven Konjugation war ursprünglich kein Suffixelement ohne Funktion, sondern er enthält ebenfalls das Partizipsuffix **w* > **u̯/*ü̯*: **várs + wз + mз + k* ≫ *várunk* usw." (Rédei 1989, 201 2).

First we have to point out that the state of affairs Rédei presents on the basis of **today's Standard Hungarian** (*-uk/-ük*, *-unk/-ünk*) is misleading again: the Old Hungarian documents suggest a quite different picture. In early texts the version *-ok/-ök*, *-onk/-önk* was widespread, indeed generally used, and even *-ëk, -ënk* occurred: GuaryK. 71: *oluaſſoc* 'we read it', 20: *fizett'o̩c* 'we pay for it'; WeszprK. 6: *lassok* 'let us see', 83: *leltó̩k* 'we found it'; NagyszK. 120: *lattyok* 'we see it', 114: *zereſſők* 'let us love it'; CzechK. 158: *magaztasÿok* 'we laud (Him)', *Dÿczeerÿo̩k* 'we praise (Him)', etc.; GuaryK. 66: *mondonc* 'we say', 92: *terő̩nc* 'let us convert'; WeszprK. 142 3: *futosonkh* 'we run about'; NagyszK. 198: *latonc* 'we see', 229: *mehetőnc* 'we can go'; CzechK. 125: *fwtamonk* 'we run', 150: *feelőnk* 'we are afraid'; etc. And for the illabial alternant: NagyszK. 138: *tehetyek* 'we can do'; KulcsK. 108: *felettek el* 'we forgot', 55: *hygyek* 'let us believe'; KeszthK. 49: *kerenk* 'we ask', 50: *remenkettenk* 'we hoped'; KulcsK. 112: *felenk* 'we are afraid', 233: *erwendyenk* 'let us rejoice', etc. (In addition, *-ok/-ök* can be found in the following codices: SándK., DebrK. 1st and 2nd hands, LobkK. 2nd hand, JordK., ÉrdyK.; *-onk/-önk* in BécsiK., MünchK., BirkK., DöbrK., PéldK. 2nd hand, MargL., PeerK. 1st hand, TelK. 1st hand, SzékK. 2nd hand: cf. Abaffy 1984, 87–93.) All this demonstrates that the present situation is by no means generally valid in early texts; in fact, in Old Hungarian these suffixes occur with mid vowels more often than with high vowels. The version *-ok/-ëk/-ök* also occurs in some present-day dialects (Imre 1971, 323).

Finally, an explanation based on the Ancient Hungarian situation—as Rédei's—cannot afford to ignore the relevant data from HB. and HBK. HB.: *vogmuc* 'we are' (four times); HBK.: *uimaggomuc* 'let us worship (Him)' (corrected from *uimagguc*).

8. After this "data collection", let us proceed step by step in considering the moot points.

As far as 1pl of the general (indefinite) conjugation is concerned, Rédei contends that, originally, the labial vowel in *-unk/-ünk* was not a functionless portion of the suffix but contained (in our transcription) the participial suffix *ß* > *-u̯/-ü̯*: **vársß + ßs + msk* ≫ *várunk*. Given that intervocalic *ß* did not get vocalised, I assume that Rédei – although he does not say so – has vowel syncope (the two-open-syllables tendency) in mind. In this case, *ß* can get vocalised in a syllable final position and form a diphthong with the preceding vowel. Concentrating on the vowel before the suffix *-nk*, Rédei claims nothing less than that the vowel of *-unk/-ünk* must have been originally long, *-únk/-űnk*, and it was only later that it shortened into *u/ü*. He tries to support the shortening of *ú/ű* by a reference to Bárczi; but at the point he refers to, word final shortening is discussed (the emerging short vowel may have been analogically extended to the whole paradigm); however, word final shortening is a quite different, natural process, having to do with the general reduction of ends of words in Old Hungarian (cf. Abaffy 1974, 87-93). But even word final shortening is quite rare, indeed exceptional, with respect to *ú/ű*; it is far from being as general as we might imagine from what Rédei says. This is shown by the following random list of *-ú/-ű*-final words, indeed containing a participial suffix: *háború* 'war', *domború* 'bulging', *szigorú* 'strict', *homorú* 'grooved', *nyomorú* 'miserable', *savanyú* 'sour', *hű* 'faithful', *keserű* 'bitter', *köszörű* 'grinder', *seprű* 'broom', *kesztyű* 'gloves', etc. Thus, there was no general shortening of *-ú/-ű* even word finally, let alone in the kind of word internal positions that Rédei's putative *-únk/-űnk* invariably involves.

What stands even more in need of an explanation is the large number of occurrences of *-onk/-önk* in early texts and those of their rarer but still existent variant *-ënk*. If we start from Rédei's participial suffix, it would necessarily be the case that *u̯/ü̯* final diphthongs evolved not only into *ú/ű*, but also into *ó/ő* (all *-ó/-ő* participial suffixes that still exist today belong here). The shortening of these, however, is not claimed even by Rédei ("der Vokal *ó/ő* wurde bis zum heutigen Tag bewahrt" 201-2). But then he is completely unable to account for the short mid vowel variants *-onk/-ënk/-önk*.

Similarly, he cannot analyse the data cited above from HB. and HBK. The forms *vogmuc* (HB.) and *uimaggomuc* (HBK.) are a complete mystery if *-muk/-mük* is preceded by a long vowel coming from a diphthong involving a participial suffix in them. Of these two forms, *uimaggomuc* must represent the older pattern. Our claim is that the short vowel (*o*) at the end of the imperative marker is followed here by the 1pl number/person marker going back to a per-

sonal pronoun plus a *-k* plural suffix. If we were to read the *o* of *uimaggomuc* as a long *ó*—as we would have to if we accepted Rédei's view—the form *vogmuc*, representing the next historical stage, would be impossible to account for. In this case, what we think must have happened is as follows (for simplicity, all consonants will be transcribed according to their present-day pronunciation). Earlier **vogyomuk* ~ **vogyumuk* must have syncopated its middle vowel according to the two-open-syllables tendency, hence *vogymuk*. If we had Rédei's long vowel in the given position, its syncope would be unthinkable.

It is another matter that the *vagyonk* forms occurring in the codices, as well as the later (and today's) *vagyunk* are not continuations of the above form. Probably partly due to the effect of possessive number/person markers where, primarily in multiply suffixed forms (cf. HB.: *ifemucut* 'our ancestor-acc.'), the two-open-syllables tendency targeted the third, rather than the second vowel (cf. HB.: *uromc* 'our Lord'), the verbal suffix concerned retained the vowel before the nasal. The forms cited from HB. and HBK. (*vogmuc, uimaggomuc*) suggest that *-muk/-mük* must have been preceded by a short stem-final or formative-final vowel that was in certain cases elided in the HB. dialect but in most parts of the language area joined the suffix *-nk* and produced *-onk/-ënk/-önk*, *-unk/-ünk* in the same way as with the possessive marker on nominals.

9. In Rédei's analysis of *-uk/-ük*, even more problems arise with respect to its historical phonological background. First, let us consider the cases where the number/person marker follows the past tense suffix *t*. In Rédei's view, this is what happened: **vártɜ + wɜ + k / *kértö + wö + k ≫ vártuk/kértük*. The use of "≫" is a convenient abbreviatory device but it would have been better if Rédei had presented (and justified) this process step by step. The *ß* is in an intervocalic position here, too, but in this case it cannot be transferred to a syllable-final position (unlike in the previous case where we assumed that intermediary step, probably in accordance with what Rédei had in mind), hence it cannot get vocalised. Then how does the diphthong from which Rédei derives the long vowel come into being? In general, intervocalic *ß* is either lost altogether or turns into *v* straight away. In the present case, elision would be possible to assume: **vártɜßɜk > *vártɜɜk*, but what happens next to the two vowels thus becoming adjacent? Historical phonology offers various ways of eliminating hiatuses. If the two vowels are identical, they may coalesce into the corresponding long vowel (Turkish *bayatur* > *bátor* 'brave'); if they are not, then either one of them is elided (*leány* > *lány* 'girl') or a hiatus filler is inserted (*halálával* > *halálával* 'with its death'). If the second vowel is high, it

may happen that it fits into the contemporary system of diphthongs and the vowel sequence turns into a diphthong (Turkish *ayıl* > *aul* > *ól* 'sty'). The long vowel of Rédei's *-úk/-ük* can only be thought to arise either by assuming that the vowels surrounding *ß* were invariably of the same quality, in particular, *u* or *ü*, or else by claiming that after the participial suffix *-ß* and before the plural marker *-k* the vowel was always high rounded *u/ü*. In the first case the coalescence of the two identical vowels, whereas in the second the emergence (and subsequent monophthongisation) of *u/ü*-final diphthongs, may have regularly produced long vowels. However, first, nothing justifies the claim that the vowels before and/or after *ß* were high vowels, and second, as is commonly known, *u/ü*-final diphthongs were regularly monophthongised into *ó/ő* (along with *ú/ű*) and this is left out of consideration by Rédei. Hence, in the definite (objective) conjugation, too, the shortening of the vowel of *-úk/-ük*, *-ók/-ők*, as well as the emergence of *-ok/-ök/-ök*, illustrated by a number of attested data, remain unaccounted for.

It is not only in terms of historical phonology, but also in chronological terms, that Rédei's account of the emergence of the present form is suspicious: "**várø* + *jø* + *wø* + *k* / **kérö* + *jö* + *wö* + *k* ≫ *várjuk/kérjük*, where *j* is an element of the objective conjugation". What is surprising here is not only that the rather secondary *j* element of objective conjugation is assumed to have been introduced by now (with respect to the late emergence of this element, cf. Kniezsa 1962, 205–12), but also the claim that this number/person marking element is followed by a participial suffix, even though the latter normally only attaches to verb stems (whether involving derivational suffixes or otherwise). Is it possible to imagine a morphemic structure like this: verb stem + the *j* of the number/person marker + participial suffix + the rest of the number/person marker?

This complicated and mostly unjustifiable bunch of assumptions is offered to replace the account adopted by most Hungarian historical linguists saying that the vowel of *-ok/-ök/-ök*, respectively *-uk/-ük*, is simply a reflex of the usual stem-final or formative-final vowel.

10. But then those who adopt the latter view, including the present author, have to account for the conspicuous fact that the 1pl suffixes in question nearly always contain mid or high vowels. This stands in need of an explanation (perhaps Rédei's main motivation to think of the **-w* (= *-ß*) participial suffix in the first place) because in these suffixes we find such vowels even if otherwise the given paradigm has a low vowel throughout. This is the case, for instance, in the past tense paradigm: *vártam* 'I waited (for it)', *vártad* 'you waited for

it', *vártatok* 'you-pl. waited', *vártak* 'they waited', *kértem* 'I asked (for it)', *kérted* 'you asked for it', *kértetek* 'you-pl. asked', *kértek* 'they asked'. Thus the only difference between indefinite 3pl and definite 1pl, both containing only the *-k* plural marker, is that the tense-marker-final vowel is low in the former, and high or mid in the latter, case: *vártak* 'they waited' : *vártok* ~ *vártuk* 'we waited for it'; *kértek* 'they asked for sg' : *kértëk* ~ *kértök* ~ *kértük* 'we asked for it'. The formative-final vowel is also low after the imperative marker: *várjam* 'let me wait for it', *várjad* 'wait for it!', *várjatok* '(you-pl.) wait!', *várjanak* 'let them wait', *kérjem* 'let me ask for it', *kérjed* 'ask for it!', *kérjetek* '(you-pl.) ask!', *kérjenek* 'let them ask'. In this case, indefinite 1sg and definite 1pl would be identical, were it not for the different vowel quality: *várjak* 'let me wait' : *várjok* ~ *várjuk* 'let us wait for it'; *kérjek* 'let me ask for sg' : *kérjëk* ~ *kérjök* ~ *kérjük* 'let us ask for it'.

The present indicative suffixes are preceded by a mid (formerly, high) vowel: *várom* 'I wait for it', *várod* 'you wait for it', *kérëm* 'I ask for it', *kérëd* 'you ask for it'. The *-k* of indefinite 1sg is also preceded by a mid vowel: *várok* 'I wait for sg', *kérëk* 'I ask for sg' (ÓMS.: *ozuk* 'I waste away', *fepedyk* 'I lament'). In the definite 1pl, containing just the plural marker *-k*, the expected forms would be *várok* (*váruk*) 'we wait for it', *kérëk, kérök* (*kérük*) 'we ask for it' (cf. today's dialectal *váruk, kérük*). However, these forms would be identical, formerly as well as today, with indefinite 1sg. Today, we find *-juk/-jük* in 1pl. A number of researchers have debated how and why the element *j* was introduced in 1pl, given that the appearance of this element is only motivated or "etymological" in the 3sg of back-vowelled verbs (Bárczi 1975, 130–1): *várja* 'he waits for it'. Later, its use was extended naturally to 3pl: *várják* 'they wait for it', then to 2pl: *várjátok* 'you-pl. wait for it' (partly in order for this form to be distinct from indefinite *vártok* 'you-pl. wait for sg'). Finally, the *j* (without the vowel) analogically penetrated the 1pl form: *várjuk* 'we wait for it'. What is surprising here is that that analogical penetration involved the 1pl of front-vowelled verbs as well: *kérjük* 'we ask for it' (otherwise there are no suffixes containing *j* in the front-vowelled paradigm).

At any rate, the *j* of *várjuk, kérjük* originated in the number/person markers *-ja, -ják, -játok*; but its introduction in 1pl is not simply a case of analogy but was also motivated by the need to distinguish definite 1pl from the indefinite 1sg of the *látok* 'I see sg', *nézek* 'I watch sg' type. As Benkő puts it, "The analogical extension of the *j* into present tense forms was necessary since the earlier definite 1pl *látok, látuk* 'we see it' ... formed, or would have formed, a highly disturbing instance of homonymy with ... indefinite 1sg forms" (Benkő 1980, 251).

In sum, the emergence of the forms *-uk/-ük*, *-ok/-ëk/-ök* (and, as we just saw, that of the forms involving *j* as well) was a way of avoiding grammatical homonymy; and the occurrence of nonlow vowels was so consistent in 1pl that, analogically, it was also extended to indefinite 1pl: *váronk* ~ *várunk* 'we wait for sg', *kérönk* ~ *kérünk* 'we ask for sg'.

So far, we were trying to justify the height of the vowels of these 1pl suffixes. The question now arises of why these vowels are generally **rounded**. Honti (1985, 76) claims that the "labial vowel + *k*" structure of 1pl number/person suffixes is a feature going back to the Ugric period. I submit that, at least with respect to the Hungarian suffixes concerned, the occurrence of rounded vowels is rather motivated by factors internal to the Hungarian system of vowel phonemes. As we saw earlier, system-internal necessities of the paradigms we are concerned with motivate the choice of high or mid vowels. Now, in Hungarian, there is no unrounded mid back vowel, and in most dialects there has been no unrounded high back vowel (*ɨ*) either, since the beginning of the Old Hungarian period. Therefore, in back vowel contexts, rounded vowels (*-ok* ~ *-uk*, *-onk* ~ *-unk*) are used by necessity, for lack of unrounded vowels of the required type. Accordingly, in front vowel contexts, it is not unrounded vowels that are generally chosen but rather, if they exist, the corresponding rounded front vowels: *-ök* ~ *-ük*, *-önk* ~ *-ünk*. The phonemic load of these rounded vowels—especially that of the comparatively recently phonologised *ö*—was probably enhanced by exactly this systemic necessity within the number/person marking system. In the Old Hungarian period, in dialects where *ö* had a very small phonemic load, these suffixes could also occur as *-ëk*, *-ënk*: this was shown by examples cited from various codices above.

In sum, I think that the height and roundedness (and even the occasional unroundedness) of the vowels of the suffixes we are talking about are better explained by the foregoing considerations than by the assumption, made unlikely by a number of historical phonological hitches, that they involve a participial suffix **-w* (= *β*).

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TENDENCIES IN THE DEVELOPMENT OF LATE OLD HUNGARIAN AND EARLY MIDDLE HUNGARIAN MAIN CLAUSES OF REPORTED SPEECH

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Abstract

In this paper I investigate the reporting main clauses of direct and indirect speech of Hungarian in two periods. I present the linguistic forms and grammatical rules (rule-like tendencies) that took part in implementing the content of a quotation, I survey the necessary and the possible elements forming the structures, and also, the consequences that can be drawn from the changes occurring in the two periods. With regard to direct speech, I touch upon issues related to genre, text formation, and reception. Instead of a comprehensive description, I rather concentrate on phenomena that have not been analysed as yet or have been dealt with only sporadically. These are: the presence or lack of a reporting main clause, its language (Latin or Hungarian), its position and word order; the marking of quotes in writing; in connection with the head of the subordinate clause, I touch upon issues such as the dominance of *mond* 'say', double heads, the strengthening of transitivity, and the *úgy mond* 'so says' structure; furthermore, I tackle the frequency, the typical forms, vowel quality and position of phoric pronouns. The paper concludes with a summary which is supplemented by a brief survey of the direct and indirect speech forms of contemporary Hungarian.

1. Introduction

It is a well-known fact that the major types of complex sentences in Hungarian emerged in the first stage of the language's independent development, in the Ancient Hungarian period. Among these, the one that renders others' words in subordinate clauses—indirect speech also originates from the same period. (Its typical conjunction, *hogy* 'that' developed in the middle of the Ancient Hungarian era, cf. Juhász 1992, 477.) Direct speech which reports someone's utterances—at least more or less[1]—in the original linguistic form, as the most ancient form of conveying someone's speech, dates back to even earlier times (cf. Herczeg 1954, 204). There is only a limited number of written records

[1] This remark refers to the fact that direct speech itself does not necessarily report speech literally (especially if one considers intonation).

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from the Early Old Hungarian period, in which only a few occurrences of direct speech can be attested; however, beginning from Late Old Hungarian, there is plenty of material for both types of reporting (a third type joins this group of reporting clauses, namely linked direct speech, which itself is not significantly different from the other types[2]).

The two basic ways of reporting offer two synonymous opportunities for contents one wishes to report to be built in the running text. As far as contents to be reported are concerned, let me note that I will take the term "reported speech" to include recollections of chunks of earlier texts as well as current utterances of (other) speakers even if those utterances are not real, or are not presented as such (e.g., if they occur in someone's thoughts, if they are performative, if their form is conditional, negated, or refers to the future). Direct speech, which keeps to the original utterance as closely as possible, is rather more conspicuous in a text, it can be isolated from the context unambiguously. It is a characteristic feature of texts from the Middle Ages that they convey other people's speech in a linear, impersonal and monumental style, which style strictly draws the line between the speech of the person to be reported and that of the reporter, but thrusts the inner, personal peculiarities of the former into the background: the author and his heroes speak the same language—as far as the mutual relation between the speech of the one reported and the author is concerned this period is dubbed "the era of authoritarian dogmatism" (Bahtyin 1986, 286, 289).

While direct speech both reports and demonstrates what has been uttered, indirect speech renounces this demonstration (Kocsány 1996, 332). Indirect speech can be understood as the consequence of the fact that the author has understood the utterance and based on this, he reformulates its content (Maas–Wunderlich 1972, 161; Bahtyin 1986, 294). Reformulation may merely involve grammatical–lexical transformation, which is mandatory in every language, or, it may also mean synonymous paraphrasing, even reinterpretation.

The moment a language is capable of constructing reported speech, direct speech gains a major stylistic role. Direct speech is a self-contained linguistic sequence, which is left in its original form by the text including it. Direct speech is subordinated to the running text as a part of the latter – or, if it exists, directly to the reporting main clause which represents it and which itself

[2] The term 'linked direct speech' refers to structures with a main clause and a direct reporting clause linked to it with *hogy* 'that'. (Sometimes it may happen that a linked direct clause transforms into an indirect clause; however, it is a fairly rare phenomenon, and thus it does not affect our main definition.) Since linked direct speech is basically direct reporting, I will treat this type together with direct speech.

is another part of the running text.[3] The main clause of indirect speech, on the other hand, inserts the quote as a subordinate clause. In contemporary Hungarian the grammatical transformation only involves a shift of person, although even this may not occur in all cases,[4] as well as the modification of adverbs and particles. In the period we are focusing on in this paper, there were additional rules applying, owing to the influence of Latin's *consecutio temporum*.[5] The quote reported thus fits in the line of subordinate clauses of the language—although in some respects it also displays idiosyncratic characteristics— ; direct speech, however, momentarily halts the continuous flow of the running text. The relation between the reporting main clause and the direct quote belongs to the critical facets of text forming: the main clause may just as much help as it may impede the assertion of the contents of the text, it may strengthen or alleviate it. However, it does block the direct and quick process in which words get communicated to the listener; this slackening effect is emphasized by the use of separate, graphically represented quotation marks (Sarraute 1967, 33f).[6]

Of the two types of reporting, direct speech possesses the more forceful and dramatic effects of text-creating, its application is therefore strongly dependent on style and genre. In personal letters from the linguistic era we are investigating the ratio of direct versus indirect speech is 6%:94%, while in the works of Gáspár Heltai, the same ratio is 63%:37%. It being a less grammaticalised linguistic form, the changes in direct speech in the investigated periods and beyond them are more dynamic (and this is the reason why I devote more space to it here).

In this paper, where I investigate by dividing the period into two parts – the main clauses of direct (linked direct) and indirect speech of the first one and a half centuries of the Hungarian language that are rich in linguistic records, I attempt to answer the following questions: what linguistic forms and grammatical rules (or rule-like tendencies) took part in forming reported speech in the period referred to in the title, and what were the required and possible elements in creating the two types of reporting. (This paper does not attempt to provide a comprehensive description of the phenomena involved; for analyses

[3] I use the terms 'main clause', 'head', 'phoric pronoun' in connection with direct as well as indirect speech since we are dealing with subordination in both cases (once in terms of text linguistics and once in terms of syntax).

[4] On the rules, cf. Haader (2000, 488).

[5] On reported speech, cf. Dömötör (1988, 421-2); in general: Abaffy (1992, 168-81).

[6] I thank Erzsébet Fehér for calling my attention to the article referred to, and I owe her thanks for her careful reading of the present paper, too.

carried out on historical corpora, cf. Dömötör 1985; 1985/1986; 1988; Haader 1995, 534-7; Károly 1995, 824-34.)

Our first period under investigation is the era of the codices (dating from the second half of the 15th century to the first third of the 16th century); the second period involves the decades between the commencement of printing and the end of the 16th century. The investigation of the first period is based on the data in *A historical grammar of the Hungarian language* (henceforth TNyt.), which I supplemented with my own data. (In what follows, TNyt. 1, 2/1, 2/2 will refer to Benkő et al. 1991, 1992, 1995, respectively.) The data (of some 3000 entries) from the second period come from my own collection (on the sources of the data, cf. Dömötör 1988).

The structure of forms with reported speech in the period of codices is mature enough to be able to serve its purpose without the need of significant alterations in the various genres of vernacular Renaissance literature (and in the official and private language use of the time). We can, however, notice certain changes in structure and usage in the two periods, some of which formed the basis of further changes later on. In addition to this, the investigation of direct speech highlights issues concerning genre, text-formation and accommodation.

In this paper, I will consider the following topics. Section **2** deals with the presence or lack of a reporting main clause, its language (Latin or Hungarian), its position and its word order. Section **3** discusses the marking of quotes in writing. In section **4** I consider some issues pertaining to heads of subordinate clauses, in particular, the dominance of *mond*, double heads, the strengthening of transitivity, and the *úgy mond* structure, while in section **5** I deal with phoric pronouns (their frequency, typical forms, vowel quality and placement), where the term "phoric" is meant to cover both "anaphoric" and "cataphoric" elements.

2. The reporting main clause

2.1. A reporting main clause is generally present even in the case of longer dialogues in the periods under investigation. Although direct speech forms without a main clause—thus those that lack any comments on part of the author—are not unheard of, they occur rather sporadically. Exceptions involve catechisms specifically structured around questions and answers, and the conversations in dramas dating from the second period. There is always a main clause in indirect speech, as is the general case wherever dependent clauses are involved.

As far as the question of how strictly a main clause is required to accompany direct speech quotations in the first period we are focusing on is concerned, it is instructive to compare the first work of the 16th century written in Hungarian in dialogue form, entitled *Három körösztyén leány* [Three Christian maidens], to be found in the *Sándor-kódex* (21–31) with its Latin original, the religious play *Dulcitius*, a work ascribed to Hroswitha von Gandersheim (Katona 1900). The Latin text is purely dramatic: it consists of dialogues, and only the names of the characters appear before their lines. However, the Hungarian translator adapter concentrates on the apologue nature of the work and does his best to annotate each utterance, this way helping native readers, who are not used to reading drama, gain a better control of the text. (The play was probably meant for reading rather than performing; as far as we know, it was never put on stage; cf. Dömötör 1986, 236, but also cf. Kardos 1960, 113.) The author inserts a reporting main clause before each utterance of the dialogue series, and in places he supplements the work with various narrative-explanatory parts as well: he transforms it into story-telling, thus creating a piece of epic poetry out of a drama. While the author, as a narrator, mediates between the character and the reader or listener, he, at the same time, separates them: the character in the play addresses the recipient not directly but through the author. Although the dramatic effect and nature of the work is blunted in this way, it may of course be put on stage with a narrator, but the indirectness of the players' lines—the presence of imaginary quotation marks—remains during the performance, too.[7]

There is only one text constructed out of utterances without reporting main clauses in our first period, and it is *Vado mori* from *Példák Könyve* [Book of apologues] (74–81), consisting of parallel utterances. Here, the speakers are separated by the expression "elmegyek meghalni" 'I am going away to die', recurring in every separate part of the text and by the "introduction" of the current speaker closely following it. (In the Hungarian version, this introduction is more complete, occupying whole clauses, while in the Latin original it is generally represented only by an interposed word.)

[7] However, in a modern edition of the play which regards it as drama (*Magyar drámaírók, 16–18. század* [Hungarian dramatists, 16th–18th century], Szépirodalmi Könyvkiadó, 1981), Péter Nagy, the editor, conceals the narrations with the help of typographic devices: he treats the reporting main clauses as a special form of speech-headings whose occurrence is the general practice in drama editions, while he treats the narrative parts as the author's instructions.

It is an exceptional case, imitating the Latin original, when in one of the commented dialogue series consisting of short clauses there is no reporting main clause:

> Es kèƶdec o̩tèt Mi aʒe2t Il'l'es vagy è tè / Es mōda / Nē vagoc / [∅] ˌppha vag è te / [Non sum. ∅ Propheta es tu?] Es fèlèle Nem (MünchK. 85 rb; similarly in the parallel places of the other translations, too)

We may sometimes come across minimized reporting main clauses in our second period occurring besides quotes from the Bible: in these cases, the mere naming of the locus incorporates the quotation into the running text. The further condensing of the text creates a "hidden quotation" in which the naming of the place of origin is not followed by a quotation. This phenomenon occurring in our second period suggests that the author was expecting that his readers possessed a Biblical knowledge amounting to his, who were capable of recognising the references, and while reading the structure they could supplement it with the quotation left out of the text.

2.2. The Hungarian–Latin bilingualism that was characteristic of the period often created bilingual direct speech forms by various means. The reporting main clause in Latin is followed by a quotation in Hungarian in some legal texts of law suits, whose recorders, since this way it was easier, preserved the Latin of the official text, and the stable parts of the procedures were recorded in this language, while the words of the parties and the witnesses—just as they had been uttered--were written in Hungarian. The phenomenon is independent of the type of the reporting; it may show up not only at the boundaries between different speakers' texts—in direct speech--, but also in indirect speech with a dependent clause:

> In persona egregii Nicolai Horuath Andreas Akacz dicit: *Im latom, hogÿ az en jobagìom fogolÿ* (1594 : Úsz. 233)

> In persona sua Benedictus Literatus proposuit tali modo, *hogÿ eo nekÿ volna valami ioszaga è szemelÿeknel* (1590 : Úsz. 226)

In order to increase the respectability of the quotation, the reporting main clause in Hungarian may be followed by the quotation in Latin in clerical works consisting of expressions from the Bible or the phrases of clerical philosophers. If the author of the text considers it sufficient that only those comprehend the words who speak Latin, he does not translate them. If he wishes to address a

wider audience, he also includes the quotation in Hungarian (he occasionally abbreviates it in Latin):

> nagyon el keſerődeenek es ereſſen kezdeenek ſyrnya mondwan *O prudentiſſima virgo magiſtra noſtra ... precamur te eſto memor noſtri O domina magnifica* (ÉrdyK. 484)[8]

> Még CHRISTVS wrunkis meg kőszőni az ő Apostolinac, monduan: *Vos permansistis mecum in tentationibus meis. Luc. 22. Tű meg maradtatoc en velem az en kisirtetimbe* (BornÖrd. 224)[9]

> azon kereztſſeegőt kyt zent halalanak előtte bezedeewel mert zerzőt vala, zent halalaa wtan meg Confirmalaa ... mondwan [Ioh XIX.] *Math vltimo. Ite docete omnes gentes baptizantes eos.2c. mennyetek el tanohatok mynden neepeket awaǵ nemzetőket meg kereztőlween ewket atyanak es ffywnak es zent leeleknek neweeben* (ÉrdyK. 71)

The Latin part may be longer. In *Szent Katalin-legenda* [The legend of St. Catherine] by an anonymous translator (*Érsekújvári Kódex*, 447–520, Márta Sövényházi's copy), written in verse, the reporting expression is sometimes followed by the quotation over several lines first in Latin and in prose, then in Hungarian and in verse. And although in this work the reporting main clauses are in Hungarian, the names of the characters are always provided in Latin, whose title-like display is a significant guide to find one's way in the text containing larger chunks of speaking.

2.3. The placement of the reporting main clause is similar in both of the periods we investigate. In direct as well as indirect speech the author's comments almost always serve as an introduction: with some rare exceptions, the main clause comes before the quotation. In the first period, we may sporadically come across reporting main clauses wedged in the direct quotation. They are usually placed between two clauses of the quotation consisting of several clauses but, less frequently, they may even split up the clause. A reporting main clause placed to the end is even rarer. Both structures show that the creator of the text regards the quotation more important than the comments attached to it,

[8] I thank Balázs Wacha for calling my attention to this type, and also for his other invaluable pieces of advice.

[9] The data is from the following edition: *Ördögi kísértetek* [Evil ghosts] by Péter Bornemissza, edited by Sándor Eckhardt, Akadémiai Kiadó, 1955. This is why the page numbering is different from the ones cited so far (and from the original volume).

so he starts off with the former. He himself, staying in the background, just inserts the reporting clause confined to the subject and the predicate *mond* 'say'—that is, to merely providing the sources of the quotation:

> Iaÿ azert vram mindọn hato istenọ́m *zent Bernard mōgia* mert az el valtoztathatatlan ioert ... ı'hak egh kevesseis faradnÿa rezeltetÿk (LobkK. 99)
>
> Mert keth kepen *az vr isten mōgia* soktam en az en valaztotímat meg latogatnom (LobkK. 101)
>
> Zegenyeknek nawalyayokerth, ees nawalyaſoknak ſyralmokeerth ymmar fel tamadok *wr mondya* (KeszthK. 18–9)

In our second period, in addition to direct speech forms with wedged main clauses or those put to the end, there are also indirect speech forms with a reversed word order. These forms are found primarily in poems, and are employed due to prosodic reasons:

> Euryaluſt niluã igen ßeretőd *az aßßonnak aßt monda*, Tőlem el titkolod de meg lasd kinek hiß (PatE. D1a)
>
> Mondodé embernec ha iô *igy ßólla* (BogA. F2a)
>
> Boßut alnac kiralion *azt kialtiac* (EnyG. A3a)

In these structures, the cohesion between the main clause and the quotation is achieved with the use of a deictic (phoric) element in both direct and indirect speech. (However, the inner structure of indirect speech shows signs of the loosening of the cohesion: the conjunction is often left out and the verb forms normally used to render the meaning of Latin's *coniunctivus* are often missing as well.)

It is also due to prosodic reasons that the quotation itself may also be embedded into the main clause, this way separating the verbs of the double quoting heads:

> *felele ßent Illyes* egy ßalat ſe félly te *nekie eßt mongya* (SztárIl. g4a)

Embedding *úgy mond* 'so says' (and using it without a conjunction)—a process more recurrent in our second period—is indicative of an ongoing change in the language (see below).

2.4. It is characteristic of the word order of the reporting main clause in both our periods that besides the subject predicate (SV) order, the fundamental

word order in Hungarian, its reverse (predicate–subject (VS)) occurs quite often as well; the latter is primarily peculiar to continuous dialogues (cf. Wacha 1995, 178). At the beginning of main clauses, it is verbs (mainly *mond* 'say' and sometimes *felel* 'answer'—see below), often repeated mechanically, that indicate that now someone else is to talk next. In these cases, the most important information is conveyed by the subject – that is to say, the name of the person talking– that is placed in the second position. (I illustrate this with examples in section **4.1** taken from SándK. 22 and 27.) The VS word order is not typical of indirect speech. In direct speech, its use may be, although not necessarily is, in connection with the Latin original:

> Es *monda aʒ attÿa* [Dixit enim ∅:] ſokat eſmerek lenÿ halalos bewnben (JókK. 95)
>
> *ffelele frater maſſeus* [Respondit frater Masseus:] Dragalatos attyam ... (JókK. 130)

3. The marking of reported speech in writing

In the periods we are investigating the fact that another speaker is to talk next is not always indicated. No special symbol is made use of to mark either type of reported speech. Direct speech is not placed into new paragraphs, not even in the case of continuous dialogues. Thus, the reader has no visual guidelines at his disposal as to where the new text section begins.

The marking of direct speech in the era of the codices varied between linguistic records depending on the scriptor's practices; the way reporting clauses were separated from the quotes followed the practice employed in the case of the other sentences in the given work. Thus, there is often no punctuation mark whatsoever to signal the beginning of the quotation (Keszler 1995, 49), other times, there is usually a virgule (a kind of comma) or a full stop placed before it; the quotation may begin with either lower case or capital letters. The case evident in *Sándor-kódex*'s story *Három körösztyén leány* [Three Christian maidens] (SándK. 21–31) is exceptional; there, the scriptor applies a peculiar graphical method to mark the reporting heads (or the reporting main clauses): he, with more or less consistency, paints with rubrum and uses underlining in the first "scene" of the dialogue – however, he does not adopt this method further on. In the era of the codices the punctuation of indirect speech, too, is fluctuating: it usually follows the punctuation practice applied in the case of the other types of subordinate clauses and varies by each linguistic record

or group of records. The most recurrent case is when there is no punctuation mark before the clause at all (this tallies with the fact that there is often no punctuation mark before the conjunction *hogy* 'that' anyway, cf. Keszler 1995, 48, for the most significant conjunctions themselves basically act as a kind of separation mark, cf. Haader 1991, 248), but there may as well be a full stop, some kind of comma—a comma or a virgule—or a colon at the clause boundary. The first letters in the sentences of indirect speech are usually lower case in the period, although there are some cases of sentences beginning with capital letters.

In print, the most frequently used punctuation marks to indicate the beginning of direct speech are the full stop or the comma (the use of the dash and of quotation marks was established only later); and within the multifarious roles played by the colon, its application of marking quotations was also beginning to emerge (Keszler 1995, 63–4). For the time being, the use of punctuation marks thus did not distinguish the marking of direct speech from that of the other types of clauses, although the capitalization of the first letters of sentences was beginning to gain ground. As far as indirect speech is concerned, the sentences usually contained commas and the first letter of the subordinate clause was set in lower case.

4. The head

4.1. The dominant use of *mond* 'say' is typical of both periods discussed here; the proportion of the uses of *mond* and other reporting expressions altered only a little by the end of the 16th century. The disparities manifest themselves more between the various types of reporting rather than between the periods. There are much more varied kinds of reporting expressions found in indirect speech than in direct speech in both periods; at the same time, the rate of using *mond* is smaller in indirect speech. The observation that *mond* comes to be used less frequently by the second period is due to the fact that there are other reporting head verbs emerging in indirect speech.

Mond is mainly the tool for introducing an utterance quoted literally and for changing the speaker within the text, this way – in the absence of graphical separation—it is the most reliable marker of the onset of a new utterance, irrespective of whether it signals the utterance of a character of the given work or a quotation from some authority for instance. In the periods we are considering, most of the verbs of utterance (and other word classes: nonfinite

forms, nouns, mostly in structures with function verbs) different from *mond* do not appear as the heads of direct speech. The exceptions include mostly (but even then in small numbers) these verbs: *felel* 'answer', *kér* 'ask for', less frequently *kérd(ez)* 'ask', *parancsol* 'order', and sporadically one or two other verbs. Nevertheless, it is *mond* 'say' which is often used instead of them as well:

> *Monda* fabius mÿ okaerth *mondanak* amazok. Merth eros hitoweek (SándK. 24)

> kateryna meg ees kerdy ... hoġ myt kelyẽn neky tenny ... az remete *erre monda* ... ha meg l'athatnad yoo wolna (ÉrsK. 462)

Note that in the periods we are investigating, *felel* 'answer' occurs rarely in the speech act sense 'answer a question', rather, it appears as the synonym of *mond* to mean 'he says/responds to this' to mark the "second" utterance in the conversation. (For the examples, see later in this section: SándK. 22, BodK. 13; cf. Károly 1995, 828 too; neither TESz. nor EWUng. record this meaning in the period). The ratio of head verbs different from *mond* in direct speech was increasing only to a lesser degree by the second period.

The distribution of the heads shows that the "power of reporting" of most communicative verbs (also nonfinite forms and nouns) is weaker than that of *mond*, that is, their degree of transitivity is smaller. And so, these words—disregarding the few exceptions mentioned above—in themselves, without the support of any of the forms of *mond*, initially are likely to be incapable of playing the role of the head of a direct reporting clause; at the same time, they may become heads in the multiply marked transitivity of indirect speech, which does not leave the main tier of the running text. (On double heads with the various forms of *mond*, see below. On the transitivity of reporting structures, cf. Molnár 1974b, 300–7.) The following verbs (and their derivatives), marking speech act or referring to some aspect of the utterance, occur independently only in indirect speech: *dicsekszik* 'boast', *kérkedik* 'brag about', *megesküszik* 'swear', *rendel* 'order', *pirongat* 'admonish', *fedd* 'scold', *ajánl* 'suggest', *panaszol* 'complain', *bevádol* 'accuse', *hív* 'call', *küld* 'send', *jajgat* 'lament', *súg* 'whisper', etc.

In addition to these, within the class of indirect reporting sentences—in texts related to private language use—there are abundant data right from the first period with structures that contain no specific reporting expressions and that condense meaning; in these forms, the verb, originally conveying a non-communicative meaning, absorbs the meaning of an utterance verb (although

the clauses involved might also be interpreted simply as adverbial clauses of cause or purpose):

naponkÿnth ream *fwthnak* hogh meg fÿzeseg nekÿk (1530 : MNy. 37 : 352)

Es *oda jöth walla* hozam, hogj en borth agÿak nekÿ (1587 : Úsz. 94)

The monotony resulting from the independent use of *mond*, which might well seem to lack style for today's reader, sounded natural in the various genres at the time. *Mond* is a puritanic head verb helping the author of the text remain in the background: it signals the quotation, but it does not attach the writer's own comments to it. Were the writer to comment on the utterance, he would make the text more explicit through the use of adverbs (such as *sírva mond*, *sírással mond* 'say crying').

Surveying the eleven dramatic works and passages with reporting main clauses in our periods,[10] we notice that in 70% of the cases *mond* 'say' is the head. In 15% of them double forms with *mond* constitute the head (on these, see below), while the percentage of other utterance verbs (participles, nouns) is around 15%. In this latter set the percentage of *felel* 'answer' (usually in the meaning 'respond') is 12.5% and that of other verbs is 2.5%. These are *kér* 'ask for', *kérd* 'ask', *szól* 'speak', *felkiált* 'exclaim', *sirat* 'mourn'. In both periods, there are some works whose authors (revisers, translators) refrain from employing *mond* to a greater extent than usual.

The dialogues in the text of *Három körösztyén leány* in the *Sándor-kódex* (21–31) are of particular interest as far as the rate of occurrence of *mond* and other verbs is concerned. Each sentence of the dialogue contains a reporting

[10] *Mária-siralom* [Lamentations of Mary] from the *Winkler-kódex* (75–99), *Devóciós passió* [Devotional Passion] from the *Weszprémi-kódex* (16–112), *Devóciós passió* [Devotional Passion] from the *Érsekújvári Kódex* (77–102), *A test és a lélek vetélkedése* [The rivalry of the body and the soul] from the *Nádor-kódex* (312–42), *Az élet és a halál vetélkedése* [The rivalry of Life and Death] from the *Példák Könyve* [Book of apologues] (66–74), *Bűnök és erények vetélkedése (Vetélkedés a lélekért)* [The rivalry of sins and virtues (Rivalry for the soul)] from the *Bod-kódex* (13–5), *Az apostolok vetélkedése* [The rivalry of the apostles] from the codex entitled *Könyvecse az szent apostoloknak méltóságokról* [A little book on the honour of the Holy Apostles] (35–9), *Három körösztyén leány* [Three Christian maidens] from the *Sándor-kódex* (21–31), *Mátyás királynak egy trufája* [A joke by King Matthias] from *Krónika ez világnak jeles dolgairól* [Chronicle on the remarkable things of this world] by István Székely (219v–220r), *Mátyás király és a kolozsvári bíró* [King Matthias and the mayor of Kolozsvár] by Gáspár Heltai in *Krónika a magyarok dolgairól* [Chronicle on the deeds of the Hungarians] (179r–v), Gáspár Heltai's *Egy nemes emberről és az ördögről* [A noble man and the devil] in *Száz fabula* (R4–S4). These texts are collected in Kardos (1960, 391–580).

main clause; these—as we have noted—are the additions of the anonymous Hungarian translator, and so, at least no direct Latin influence is to be expected to account for the choice of head verbs.

In this series of dialogues the rate of occurrence of *mond* 'say' is even higher, 83%, than what we have seen so far; that of *felel* 'answer' is 16%, and there is only one instance of another verb, which is *kérd* 'ask' (1%, rounded). Disregarding one exception, there are no instances of double heads constructed with one of the forms of *mond* (see below).

At the outset of the text, the choice of using either *mond* or *felel* is quite consistent with the characters' taking turns in the dialogues. The author reinforces the very first *felel* with *mond* (this is the only double head), and then he uses the verb just in itself. The verbs—besides referring to the turn-taking in the conversation—do not refer to any other speech act: *mond* in addition to its meaning 'announce' also occurs to mean 'ask' and 'answer (a question)', while *felel* is used primarily to mean 'say this to this', and only rarely to mean 'answer (a question)':

> *Monda* az <aazaar: mÿt akar ez: mi<oda bolondsaag uagÿon veleetǫk *feleele* agapes mÿnemǫ bolondsaagnak ÿegeeth esmerǫd mÿ bennǫnk lennÿ: *Monda* az <aazar nÿlwan ualooth es igǫn nagÿoth. *felele* agapes mÿ<oda az. *Monda* az <aazaar: Imez az hog az mÿ tǫrwenÿǫnketh nem akarÿatok tartanÿ. de haznalatlan kǫrǫztÿen tǫrweń tartaas vtan ÿaartok. kiben semmÿ hazzon nÿn<en *feleele* agapes: ez elÿen Bezedǫderth el vezt isten tegǫdeth. es mÿnd hozzaad tartozooth. *monda* az <azaar ez meg bolondwlth. vigeek el elǫlem (SándK. 22)

This method of constructing a text shows that the author's intentions are deliberate: he makes it more convenient for the reader (listener) to follow the dialogue when he signals the turn-taking of the characters in the conversation with two verbs used in turns. This phenomenon crops up later too in shorter passages—used much less consistently though—, but then it fades away for longer parts and the alternating use of the two verbs is replaced by the typical mechanical use of *mond*.

The reporting main clauses introducing the words of the participants of the conversation alternate even more consistently in *Bűnök és erények vetélkedése* [The rivalry of sins and virtues] occurring in the *Bod-kódex* (13–5). Within the twenty utterances ten *ezt (azt) mondja* 'say this (that)' and another ten *reá felel mondván* 'answer to that saying' reporting heads are alternating (twice supplemented by other expressions). The meaning of *reá felel* is always 'say

(this) to this'. In the structure, *reá* 'to that' also indicates that it is the "second" utterance to come next (this is rare, although not unprecedented; cf. ÉrsK. 462. *erre monda* 'said to this', see earlier in this section):

> Az keuelseg *azt mond'a* Fell'eb[a](e)n valo vag. mindeneknel, azert tarć fel feÿedet, Az alazatossag *rea felel monduan*, Emlekezzel meg zegen naual'as, mert rothatatossag vag es fereg, meg kell halnod. Hiw dićoseg *ezt mond'a*. Mutassad ki a iot, kitt tezz. hog ionak es zentnek mond'anak Vrnak felelme *rea felel monduan*. Az iot nem kell embernek tennÿe ez el mulandokert (BodK. 13)

Using verbs to indicate the turns of the characters is an exceptional phenomenon. Here follows a typical example of the repetitive use of *mond* from another part of the story of *Három kórösztyén leány*:

> *monda* nekÿk vaarius. agapes es Cionia engedÿetoḱ en tana«imnak aldozzatok az istenoḱnek, *mondanak* ók. az oŕoḱ attÿa istennek es fÿwnak es zent leloḱnek zonetlen aldozonk, *Monda* varius azt en tÿ nektoḱ tana«a nem adom soóth meeg kennal es attul tiltlaak. *monda* agapes ne til< mert soha nem aldozonk az baluanÿoknak, *monda* varius ne legetoḱ kemen zÿwóeek (SándK. 27)

The reporting heads of some parallel text versions of the second period are also indicative of the differences in language use. Since the dialogues in these texts do not constitute the basic text of the work, they are but parts of epic works, here the considerations of separating the various parts of text play a smaller role, and so the differences are mostly based on individual taste.

In *Ponciánus császár históriája* [The story of Emperor Pontianus] by an anonymous writer there are no other reporting expressions to be found next to the lines of the characters, only *mond*. In Gáspár Heltai's *Ponciánus császár históriája*, in addition to the frequent use of pure *mond*, in more than a quarter of the structures there is a more diverse set of expressions (mostly *felel* 'answer', *felel és mond* 'answer and say', *szól és mond* 'speak and say').[11]

Heltai opts for a different way of construction in his other works. The text of his adaptation of Aesop's *Száz fabula* [One hundred fables] is dominated by direct speech forms and pure *mond*, while Gábor Pesti in his *Ezópusz fabulái* [Aesop's fables] uses more colourful reporting expressions in addition to *mond*

[11] The two authors based their work on different editions (cf. for instance RMNy. 1: 83, 247), which might also play a role in the differences.

(e.g. *dörög* 'rumble', *ordít* 'shout', *kér* 'ask for', *könyörög* 'beg', *tanácsot ad* 'give advice', etc.).[12] He more often uses indirect speech involving self-standing verbs to signal speech acts, but even in the direct speech expressions he prefers to utilize more diverse verbs which are supplemented by *úgy mond* 'so says' (see below).

Other communicative verb forms different from *mond* acting as the reporting elements of direct speech gain ground only slowly. *Szól* 'speak' occurs in our earliest examples of this (*Königsbergi Töredék és Szalagjai* [Königsberg Fragment]); however, in the periods we are investigating, this verb as a self-standing form occurs more rarely. Nevertheless, on the synonymy of *mond* and *szól*, compare:

> kèʒde i^{c} *mondani* [coepit Iesus dicere] a· gọlèkeʒètecn^{c} Ianoſ2ol Mit mentètecki a· kietlẽbè latnotoc (MünchK. 17 ra-rb; similarly: Sylvester 16b) ~
>
> kezde Jeſus *zolnya* az ſokaſſaghnak Janoſrol: My lathny meenetek kywe az pwztaban (JordK. 385; similarly: Pesti 21r, Károlyi 10v)

We might mention *beszél* 'speak' as the third synonym of *mond* which can be used alone too, and which is particularly favoured by the translator of *Szent Katalin-legenda* [The legend of St. Catherine] in the *Érsekújvári Kódex* (447–520).

4.2. Double heads constructed with one of the forms of *mond* are typical of direct speech. The fact that they rarely show up in indirect speech is due to the effect of direct speech. The various types of the ocurring structures are the following.

The *felel és mond* type: into this set belong coordinate structures (usually with a conjunction) constructed with a verb signalling the speech act or characterizing the utterance (in most cases with *felel* 'answer' and *kérd* 'ask' as the first conjunct), or the more widely spread variety involving a phoric pronoun *felel és úgy mond* (on the structures with *úgy mond*, see below):

> *Felèle* Iaŋ ƶ *mõda* ... tünmagatoc vallotoc ènnèkem tanoſagot
> (MünchK. 87 rb)
>
> Es *ke2dec* ọtèt ƶ *mõdanac* nèki | Aʒe2t tè mit kè2èʒtèlʒ ha tè nẽ vagy x^{c}
> (MünchK. 85 rb-85 va)

[12] Cf. the previous footnote (see, e.g. RMNy. 1 : 83, 247).

The *felel mondván* type: this structure is constructed with an utterance verb together with the participal form of *mond*, whose spreading is attributable to Latin's *dicens* (< Hebrew *lémor*) which often emerges in Bible translations in the first period:

> megh kerúlee mýnd ýzrahelnek népéth, es *zola* nékýk *mondwan* Twgégatok (SzékK. 14)

> Vgan azon zenth Bernard eg Thanÿltvańańak vg·*ir vala mondvan*· Az alazatossag ł'ak: nem zokot dÿczekǫdnÿ (LobkK. 33)

> *panaßolkodnac* ... *monduán.* Kár hogy nem ehetem e' io ételkbe (HeltR. L6b)

In these double reporting expressions the first verb signals the speech act, identifies the role played by the utterance in the communication, or highlights one of the aspects of the utterance, while the quotation itself is inserted in the structure by *mond(ván)* (cf. Károly 1995, 827–30). This way *mond(ván)* can attach to any communicative verb (and noun: *beszéd* 'speech', *szózat* 'appeal', *proclamation* 'poem', *imádság* 'prayer', *ének* 'song', etc.)—as it is evident from these and the further examples of the *úgy mond* structure.

Mondván may also become monotonous within the text, just like *mond* in other texts. In one of the works of *Példák Könyve* [Book of apologues], *Élet és halál vetélkedése* [The rivalry of life and death] (65–74), all the reporting main clauses are terminated with *mondván*, which, while it signals that an utterance is to follow next—just like the colon later—, lends a peculiar rhythm to the dramatic text.

The *felelvén mond* type: the function sharing duality effects can also be achieved by attaching *mond* to the participial form of the speech act or utterance verb (rarely both are participles):

> Ieſus iſmeg *feleluén, monda*, Fiaczkáim, mely nehéz azoknak, kik pénzőkbe biznak, Iſtennek orſzagába bé menni (HorvKr. B2a)

> fŏl ßoual *kialtuan* imezt *mondgya vala* ſiralmas enekeben. Rolam moſt eſmerem czak azok bodogok (SztárÉ. 112)

> es *felelven* ý nekik *mondvan* kiteknek zamara vagý ǫkre· kvtba esik: nemde leg ottan·ki hvzia azt zombaton e (DöbrK. 376)

Parallels in Bible translations sometimes show the various structures together. If in the Latin version there was a participial structure, this is preserved in the early translations. Among the translators of later times, it is János Sylvester who employs participles the most often in these places (and György Káldi even more so in the 17th century). However, Gábor Pesti, and Gáspár Károlyi too, frequently use a verb, and thus the rate of occurrence of structures with *felel és mond* in Bible translations increases at the expense of *felelvén mond* in the second period. Our examples also illustrate, nevertheless, that the writers are not always consistent:

E tizenkèttọt ézéʒte i^{c} *pazanɪoluan* nèkic z *monduā* [praecipiens eis dicens] Poganocnac vtaba ne meńnètec (MünchK. 16 ra) ~

Ez tyzenkettọ́t boczata el Jeſus *paranczolwan* hw nekyk, es *mondwan* (JordK. 382) ~

Ezeket, eʒ tÿʒenket ʒamwut, el bochata Ieſus, kÿknek *paranchola* ees *monda* (Pesti 18v) ~

Ez tizenket ßām ßerint valo apoſtolokat elboczātā Ieſus ęſ ű́nekiek *paranczolatot ada* ezt *monduān̄* (Sylvester 14v) ~

Ezeket tizenkettẽ el kű́lde Ieſus es *meg parantſolá* nékiec, *monduán* (Károlyi 9v)

haſonlatnac a· vaſaʒt vlọ gèʒmekecheʒ kic *vuọltuē mondnac* ọ́ felecn^{c}/ [qui clamantes coaequalibus dicunt] Mü vigaſagos enèket enèclēc (MünchK. 17 rb) ~

kyk *kyathwan* hw feleynek *mondnak* (JordK. 386) ~

ÿweltnek aʒ ew tarſoknak, *mondwan* (Pesti 21v) ~

ű́uő́ltenek az ű́ tarſainak / ęſ ezt *monǵak* (Sylvester 17r) ~

kiáltnac az ő́ tárſainac. Es ezt *mondgyác* (Károlyi 11r)

The two forms may alternate within a given passage, which suggests their synonymity:

Az bekeseg *rea felel* es ezt *mond'a*, Mell' igen sok bozzusagokat zẹnvedett te eretted az xp̄us ... at'afiusagos egenlọ́seg *rea felel monduan.* ... iob es haznalatos ha magadat meg alazod (BodK. 14)

Es az zyz marya yli keseruen *fyrattya wala monduan* Oh ennekem en zent

Fiam ... maria magdalena es ezenkeppen *fyrattya wala*: Wram en edef mesterem ... (ÉrsK. 101f)

The phoric pronoun referring to the quotation, which stands before the second word of the double reporting form—cf. some of the previous examples too—, separates the functions of the two expressions even more: the speech act verb is detached from the unity made up by the phoric pronoun plus *mond(ván)* and the quotation thus strongly linked to it. This type of construction is more typical of the second period:

ő̃maga Salomon *imadkozik*, ... es *eßt mondgya*: En WRam Iſtenẽ, adgy te ßolgadnac engedelmef ßű̃uet (HeltR. H7b)

az Iſten neki *meg hatta vala ezt monduan*. El ne tauozzec az en tő̃ruenimnec kő̃nue az te ßadtul (KárK. C5a)

4.3. The strengthening of transitivity in the verbs that are the heads of direct quotations reduces the occurrence of double structures with *felel és mond, felel mondván*, and *felelvén mond*, and later it makes them vanish altogether. As we have mentioned, in the first period (even before it), certain verbs—other than *mond*—were capable of constructing reported speech on their own, a rare scenario as it may have been; the typical case was when these verbs joined one of the forms of *mond*. Thus, there existed parallel opportunities:

Az elet *kerde* az halalt *monduan* Nemdee my fewldy emberek alhatunkee te hatalmaſſagodnak ellene ... *Felel* az halal az eletnek *monduan* bolondul kerded mert nalatok nagygyal erewſb vagyok (PéldK. 50)

Es *kèƶdec* o̩tèt Mi aʒeƶt Il'l'es vagy è tè / ... Es *fèlèle* Nem (MünchK. 85 rb)

The two types of structures are also discernible in parallel Bible translations:

kere ez dichwseges zenttet *monduan*. Kerlek atiam ... (VirgK. 43) ~

kere ʒent fferencʒet: kerlek teged attÿam... (JókK. 45)

With a more meaningful exchange:

Bè menuetec ke·a·haʒba *ko̩ʒo̩nnètec* nèki *mōduan* |salutate eam dicantes| | Bekèſeg è haʒnac (MünchK. 16 ra–rb) ~

Bę ménuén pedig az házba, *kő̃ßő̃ntſétec* az ház népét, *illyen módon*: bekeſég ez háznac (Károlyi 10a)

When the copier of a text spontaneously adds *mondván-* not found in the original text and later deleted from the copy as well—, this way breaking the rhythm and rhyme pattern of a poem of several hundred lines, this is indicative of the fact that his linguistic instinct strongly requires the use of the participle (the alternative explanation that he might have accidentally added it through oversight is out of the question as there is no trace of *mondván* in the surrounding context).

> es ew az czazart meg meevete mert ew bezedet ygen thewrlytthe ['shaped'] */mondwaan/* ... Ez wylagban nagy few wrak Es kyk ty wattok romayak ... Im laffatok akarattyat (ÉrsK. 481)

The self-standing head verbs *felel, kérd(ez), parancsol*, etc. (along with *mond)* attached to the direct quotation are capable (in our periods only rarely) of expressing the meaning 'tell/inform', as well as 'begin to speak', in addition to providing the content of the utterance literally, despite the fact that they are originally used intransitively only. They are transitive in these cases in spite of their most frequent indefinite form: their capability of reporting proves to be sufficient to convey direct speech. By the second period, the number of verbs with the ability to report without the support of another verb widens and the frequency of their use is slowly increasing as well; for example, the following forms occur in addition to the previously listed ones: *könyörög* 'beg', *fogad* 'bet', *firtat* 'pry into', *meghagy* 'order', *áld* 'bless', *gyón* 'confess', *köszönt* 'greet', etc.

Previosuly *mond* itself must have gone through similar stages from the intransitive meaning 'begin to speak, talk' to the meaning 'tell/inform', which enables it to report quotations. This seems to be supported by the indefinite forms of *(úgy, eképpen) mond* —with or without a phoric pronoun —plus the direct quotation, frequently occurring in our periods. (Early Old Hungarian data are only provided by *Königsbergi Töredék és Szalagjai.* In this fragment, the joint structure comprising a phoric element and a head *úgy, azonképpen szól* occurs more than once—here too, in an indefinite form. In the Late Old Hungarian period one may also come across structures with a phoric element plus an indefinite verb like *úgy, eképpen, ilyen szerrel beszél*; cf. the reference to ÉrsK. at the end of section **4.1**.)

The verb standing before the direct quotation was typically conjugated indefinitely before the 15th century (Bárczi 1958, 263–5). As our examples also illustrate, the tendency that the direct quotation is accompanied by an indefinite verb, while in indirect speech we find a definite verb, began to break

up from the 15th century onwards. Even in the 16th century, the degree of transitivity of the main verbs of direct speech falls short of that of those verbs which are obligatorily transitive, this way of their own later use too (cf. Abaffy 1982, 155–7). In the periods we are investigating, the main verb of indirect speech can both be definite and indefinite (the former being more frequent):

meg hagÿjak nekÿ hog ṭobbe oda ne menne (SándK. 26)

imezt *monġauala*: halakat adok tenekőd (KazK. 73)

paranczolok teneked ... hogy ... meg alÿ (JókK. 44)

Felelnek zent doktorok ehre: hogi harom okaert (DebrK. 22)

Even though in the most frequent form—without a phoric pronoun—, the third person singular imperfect, it is impossible to detect what the conjugation is due to the concurrence in spelling, from other data it is clear that the main verb of direct speech is generally indefinite:

Es *monduala* It nelegÿen lakafonk (JókK. 121)

Es én *mondéc*: WRam Iften: te tudod aßt (HeltV. G8a)

This fluctuation is also noticeable in the parallel texts of Bible translations. The authors use both types of forms, but the tendency appears to favour the definite forms:

Iọvọ èmbezn^{c} fia euèn z iuan / z *mondnac* im faldoclo èmbez (MünchK. 17 va; similarly: Pesti 21v) ~

El ywee embernek ffya, ywan es eween, es azt *mongyak* ... (Jord. 386; similarly: Sylvester 17a; Károlyi 11a)

tahat *mond* megfozdoloc èn hazāba (MünchK. 19 ra; similarly: JordK. 391; Pesti 25r) ~

Legottañ ezt *monġa* ... (Sylvester 19v; similarly: Károlyi 12v)

The former intransitivity of *mond* might be signalled by the following type of double occurrences in the translations from Latin of the first period (but not in the second):

felelven iesus *monda* · az torven tvdoknak es fariseosoknak *mondvan* Illik e zombaton vigaztania (DöbrK. 376)

Annak okaert *Ugÿ mond* zent ambrus zvzeſſegrevl valo kevnyveben. *mond-uan.* legen tÿ nektek az zvz marianak elete. mykeppen keepben meg jrt (CornK. 2v)

What these structures show is that *mond* can be supported by *mondván* to insert the quotation just as much as *felel, kérd*, etc. (On the other hand, however, *mondván*, which is often used with other verbs, might be used with *mond* purely as a redundant element in Latin and then, by analogy, in Hungarian, too.)

The same process is repeated on several levels. In the periods we are considering, verbs that do not necessarily designate an action involving speaking may also function as reporting verbs – as part of a double head construction or independently:

Azonképpen *vigaßtalya* Chriſtus Wrunc az ſ̊ueit, Matth. 10: A tv̊ fő̊ieteken valo hayßáloc, Vgy mond, mind meg ßámláltattanac (HeltV. G3a)

tufakottac egy maſſal: Vallyon azis ninczê raytad? (BornÖrd. 791a)

Thus the utterance verb can by analogy of this process be omitted from even those sentences that do not feature another reporting verb. Nevertheless, the following are the general forms in our periods: *előáll és mond* ~ *mondván* 'step forward and say', *jön és mond* ~ *mondván* 'come and say', *megölel és mond* ~ *mondván* 'embrace and say', *hív és mond* ~ *mondván* 'call and say', *küld és mond* ~ *mondván* 'send and say', etc. It is only later that the form in which the quotation can attach to the verb (or noun) expressing the action that accompanies speaking becomes widespread, although this phenomenon is not unheard of in Late Old Hungarian and Middle Hungarian either:

kateryna nagy ekeſſen lee terdepelek Es ylyen kepen *remenkewdek* ... Oh ennekem en ydweſſegem ... (ÉrsK. 518)

Azt *meg lata* az ſ̊ßent Anya, Oh en áldot zent Fiam. nem czudalom hogy te neked fel indult a' te keleuenyed (BornÖrd. 808a)

Soha az en ßiuemben meg nem ßv̊nt a' te eiyel es nappal aitómon valo *zŏrgetéſed*: Ely az Iſtennec, ßolgály az Iſtennec (VásI. 13a)[13]

[13] On meaning-condensing structures, cf. Hadrovics (1969, 258–61); Molnár (1974a, 402–4); Dömötör (1983). On the spread of the structure in Hungarian: in contrast to Russian, cf. Klaudy (1986), to French, cf. Dániel (1990, 72–85).

4.4. We should pay special attention to the *úgy mond* 'so says' structure among the set of reporting expressions appearing with *mond*. *Úgy mond* as the reporting expression of direct speech plays various roles in the various periods. (*Úgy mond* only rarely occurs in indirect speech.)

The union of a phoric word and a verb is capable of reporting independently in the periods we are considering. The most frequently employed phoric pronoun used with indefinite *mond* is *úgy* 'so/that way'; this structure is just as much natural in the period as *azt mondja* 'says that' is later. Thus, when there is a need to emphasize the quotation with a phoric element—this mostly happens in the case of quoting Biblical expressions, the words of saints and clerical scholars—it is most often *úgy mond* which is used in the reporting main clause:

> Mert *vǵ mond* az zent íras Mind az teuǫ / mind az neki engedǫ / igenlǫ kínnal kínzatnac (GuaryK. 24 5)
>
> *vgy mõd* a' Chriſtus Ieſus. Bizony bizony mondom tűnektec: Valaki az én Igémet halgattya ..., annak ő̃rec élete vagyon (HeltV. F5b)

The fact that they often occur together gives enough reason for the analyst to treat *úgy mond* as a unitary reference verb (by regarding the structure, originally comprising a phoric element and a verb, as an inseparable unit: cf. Károly 1995, 825). One might also think that in the period, *úgy mond* in this role may have indicated factivity (*úgy mondta* 'so said' = *megmondta* 'declared'), but this would be hard to prove, even more so because *megmond* 'tell' itself was also in use.

There are several factors proving that in *úgy mond* standing before the quotation the phoric pronoun and the verb have begun to merge: the pronoun occurs in its back-vowelled (distal) version almost without exception (as opposed to the tendency evident in direct speech—see below); they stand together even in cases of predicate–subject word order (in which construction usually no phoric element is involved; see also below), and in spelling they are often written as one word—although they are written as two words just as often, and the vowel quality as well as the word order may vary, too.

Úgy mond may also occur to enforce the reporting power of other verbs (also participles and nouns). In one group of the structures it stands at the end of the reporting main clause, and it attaches to the main clause with the conjunction *(é)s* 'and'. It often occurs next to *szól* 'speak/utter a word', chiefly in our first period. In these structures, its role is parallel to that of *mond(ván)*, discussed above:

Ith *zol* a lelǫc a testnec *es vgmond* O Ńaual'assagos test (NádK. 314)

Atÿam halotam hogÿ *zoltal* es *vgÿ montal*, Vram smi vagÿ te (VirgK. 43)

In another set of the structures, *úgy mond* is placed further away: often it gets inserted into the quotation (between the clauses or into the only clause of the quotation). This type of word order is characteristic mainly in the second period; *úgy mond* can attach to any kind of utterance verb in these structures:

Ere az Mykola ezt felelthe, Wagÿon, *wgÿ mond*, de ennekem nÿnchen (1586 : Úsz. 83)

Igy énekel a' ßent Ezekhias kiraly is: Ifa. 38: Wram, Ezekből, *vgy mond*, él az ember (HeltV. G3a–b)

Úgy mond detached further away from its reporting clause refers back to the level of the running text from within the quotation. There are texts, like Mihály Sztárai's *Igaz papságnak tüköre* [The mirror of true priesthood], in which the direct quotations are systematically interrupted – and thus differentiated from other types of clauses – by *úgy mond*. In the case of a longer quote, the insertion indicates that the text is still a quotation. It may sometimes occur that it signals a transformation from indirect to direct speech, thus the change of speaker; we can often come across this function in Gábor Pesti's *Ezópus fabulái* [Aesop's fables] for instance:

Aʒ eb aʒt mongÿa wala hogÿ ... nam ideÿebe ewÿs eleg eb wolt volna, de a mÿnt latom *(wgÿmond)* ſemmÿ nem kellemetes haʒon nekÿl, mÿg zolgalhatalak ʒeretel (F2b)

Akorõ meg hagÿa nekÿk az annÿok hogÿ ſemmÿt ne felnenek mert ha *(wgÿ mond)* aʒ wr aʒ arataſt baratÿra hallaʒtotta ... nem ʒÿkſeg hogÿ tÿteket innet el wigÿelek (R1b)

There are only a few examples of these functions of *úgy mond*. *Úgy mond*, detached from the main clause, however, occurs quite a few times (mainly in the second period) in very short quotations comprising but a few words. Apparently, its insertion into the text is a routine task now. It often pops up next to *mond*, even next to *mond + mondván*:

Es egÿ keʒʒÿlek kÿnek iob ʒÿue wala *monda*, mÿt felewnt [!] *(wgy mõd)* heÿaba? (PestiE. F3a)

La hogy *mond* a ßent Mathe Euangeliomanac hetedic reßében. Meg otalmazzátoc, *vgmond*, tinnen magatokat (SztárIg. G5b–G6a)

monda azert az o̧rdo̧g az azzońiallat kepeben ... *mondvan.* Nezmeg *vǵmond* engo̧met hatvlis mikepen el'o̧l' neztel (LobkK. 82–3)

That the original function of the phoric pronoun and the head verb in *úgy mond* inserted in the sentence is fading is indicated by the fact that they, as one unit, are incorporated in the quotation in a stable form and independently, they are written as one word, and—in printed texts—they are often put into brackets.

The fading of the role played by *úgy mond* and its meaning is due to the fact that the reporting ability of the first element of the double reporting expressions—marking the speech act or characterizing the utterance—proves strong enough to be able to report alone, without the support of *mond*. The reporting function of *úgy mond* and *mondván*, originally a part of the double reporting expressions, is altering in this process. (Their meaning is modified to a great extent later on: it is the development of the last few decades of the twentieth century for *úgymond* to mean 'so to speak' and for *mondván* to mean 'because'; Értsz. does not list them, ÉKsz.—mixing the old and the new meaning—lists only the first.) The routine-like use of *úgy mond* referring back to the level of the running text evident in the second period is later—especially in oral texts and in the literature imitating them—taken over by *azt mondja* 'says that'. This latter expression occurs rarely in our investigated periods, and it is usually a contentful reporting expression. The process, however, may have begun right during that time towards the direction of both *mond* and *azt mondja*, in a parallel fashion with *úgy mond*, or independently.

felele kiralynac Mikheas propheta, él az Iften *vgy mond* maid igazat mondoc ... él az Iften *monda* ninch ezeknec vroc (SztárII. i4b)

felele a' ßent illyes en vagoc *aßt monda*, menyel az vradhoz (SztárII. h1b)

5. The phoric expression

5.1. The frequency of using a phoric element shows an increasing tendency; this is a normal process anyway among subordinate clauses. The increase in direct speech is greater, however: in Late Old Hungarian, approximately a quarter of direct quotations are represented by a phoric element in the reporting main clause (Károly 1995, 826; in the data of TNyt. 2/2., the rate is even less than

this, 14%); by the Middle Hungarian period, the rate of phoric expressions is around one third. In the second period, the rate of phoric structures is the same in indirect speech, this, however, signals only a slight increase compared to the previous period (when indirect speech forms contained many more phoric constructions than direct speech expressions). Indirect speech houses phoric elements much more frequently than other subordinate clauses without quotations. (On the first period, cf. Haader 1995, 513, 537, 553; there are no similar data on the second period as yet.)

The use of phoric pronouns may be affected by several factors. They are used mainly in sentences with a subject-predicate word order (SOV, rarely SVO) or with an unrealised subject, but not in sentences with a predicate-subject order (VS). In the latter type, occasionally we find *úgy* 'so/that way' before *mond* 'say' (OVS), which indicates the strong relationship between the phoric element and the verb (that they are on the verge of uniting). Since the subject-predicate order is mainly typical of uninterrupted dialogues, the occurrence of phoric pronouns in dramatic texts is few and far between. An exception is when the author keeps to an SV word order in a continuous dialogue too, for instance in *Bűnök és erények vetélkedése* [The rivalry of sins and virtues] in the *Bod-kódex* (13 5). (Both orders are exemplified in section **4.1**: SándK. 22, BodK. 13, and SándK. 27.)

The frequency of the use of phoric pronouns is affected by other factors related to genre. Among direct speech expressions, phoric pronouns are less usual in private language than in works of a higher style; genres that make use of direct speech with phoric elements the most frequently are the ones that feature a lot of quotations taken from other works (agendas, postillas, teachings, polemical essays, contemplations). Even within the works of one and the same author there can be variation in the use of the phoric pronouns: in Gáspár Heltai's *Vígasztaló könyvecske* [Little book of comfort] there is a phoric pronoun in the direct quotations in 77% of the cases, while in his *Ponciánus császár históriája* [The history of Emperor Pontianus] there are no phoric elements in them whatsoever. As far as indirect speech is concerned, the genre practice is uniform; in letters and pleadings the rate of phoric elements is remarkably high.

Parallel passages in Bible translations clearly show that whether or not a phoric pronoun is included in the reporting main clause may well depend on the linguistic taste of the creator of the text. It is characteristic of the vehement increase of the use of phoric elements that, in spite of the requirement that Biblical texts ought to be translated literally, the translator can attach a phoric pronoun to the head verb in direct speech, while in indirect speech there are no

phoric elements in the sentence, just like in the Latin original. In our second period, János Sylvester usually uses a phoric pronoun in direct speech; Gáspár Károlyi often, while Gábor Pest less frequently opts for this method. (As their precedent, we might mention the *Jordánszky-kódex* where we can occasionally find examples of a phoric pronoun being used in direct speech; this, as we have mentioned, is a rare phenomenon.) Primarily it is the object pronouns whose number is increasing, and so the spreading of their use is related to the increase of transitivity of the head verb. Parallel passages often show variation between forms with an indefinite verb standing without a phoric pronoun, and forms with a definite verb with or without a phoric element:

> me2t iǫ́t Iaŋ9 nem euen ſem iuan z *mondnac* [et dicunt] / ǫ́2dǫgǫ́t val (MünchK. 17rb) ~
>
> Mert el ywee Janos, ſem eweek, ſem ywek, es *azt mongyak*, hog̃ erdeg vag̃on bennee (JordK. 386) ~
>
> El iwe Ianos, kÿ nem ezÿk ſnem ÿzÿk wala, ees *azt mondak*, hogÿ ewrdege vagÿon (Pesti 21v) ~
>
> Mert eli͡ou̇e az Janos / ki ſem ïßik ſem ïßik / ęs *ezt monǵāk* u̇̊neki. Ő̊rdo̊g vag̃on u̇̊ benne (Sylvester 17r) ~
>
> Mert el i͡ótt az (keresztelő̊) Iános, ſ-nem éßic, ſem ißic, és *azt mondgyác* hogy ő̊rdo̊g vagyon benne (Károlyi 11r)

> Es mēd a· gǫ́lèkezètec ʟudalkodnac vala z *mondnacuala* [et dicebant] / Nemdè èz dauid fia è (MünchK. 18 rb) ~
>
> es czodallyak vala mynd az ſereghǫ́k, es *mondnak vala*: Nem de ez ee az dauid ffya (JordK. 389) ~
>
> Ezen mÿnd az ſeregek el chodalkozanak, ees *mondnak wala*, Nemde ez e az Dauid fya (Pesti 23v) ~
>
> Es az nipek mind elczudalkozānak / ęs *ezt monǵāk vala.* Nemde ezi az Dauidnak fia (Sylvester 18v) ~
>
> Es el almélkodéc az egéß ſokaſág, és *ezt mondgya vala*, nemde ezé Dáuidnac amaz fia (Károlyi 12r)

The rate of phoric expressions is outstandingly high in *Szent Katalin-legenda* (*Érsekújvári Kódex*, 447–520). It is a typical feature of the abundance of phoric

elements found in the text that in many cases there are more than one of them piled up before the head:

> az doktor hoǵ meg halla katherynaanak *ezt ygy* mondaa Leany hyzem azt gondolod hogy bolondal wagyon dolgod (487)
>
> magat rayok haragwta de ynkab felefeghere kynek mondwan Es *ez zerrel ygy* bezelwen Azzony Iambor thees myt zolaz (512)

5.2. Among the phoric pronouns found in reported speech, the most frequent ones in direct speech are *így* ~ *úgy* 'so/this way ~ that way', mainly—but not exclusively—owing to the frequent use of self-standing *úgy mond* 'so says'. The use of *azt* ~ *ezt* 'that one ~ this one (acc.)' is on the spread; *e(zen)képpen* 'this way' and *imezt* 'this one (acc.)' are also often used. In indirect speech, the most frequently used forms are *azt* ~ *ezt* and the phoric elements most suitable for the adverbial complements of the speech act specific head verbs.

It is rare to see that the author makes full use of the structural differences among the phoric elements found in the various types of reported speech. In *Az apostolok vetélkedése* |The rivalry of the apostles| (*Könyvecse az szent apostoloknak méltóságokról* [A little book on the honour of the holy apostles], 35-9), it is almost fully consistent that direct quotations either contain no phoric pronouns or make use of phoric *úgy*—the current utterances of the characters in the dialogue are reported in the former way, while sentences having been uttered previously are reported in the latter way; indirect speech forms feature phoric *azt*:

> Mynt abraham ky *vgh* mond vala: hogh meryek en zolgalnom az vr ystennek (35)
>
> Monda zent yanos ewangelista ... en zwz vagyok (36)
>
> Ianos te *azth* mondod hogh zwz vagh (38)

In *Szent Katalin-legenda* (*Érsekújvári Kódex*, 477–520), there are not only a large number of phoric elements, but they also occur in a great variation; this variation, rather rare in the period, contributes to a great extent to the diversity of the reporting main clauses, occurring in large numbers in the text themselves. The following forms occur: *ezt* ~ *imezt* ~ *azt*; 'this one (acc.) ~ this one (acc.) ~ that one (acc.)'; *így(en)* ~ *imígy(en)* ~ *úgy* 'this way ~ this way ~ that way'; *ily(en)szerrel* ~ *imily(en) szerrel* ~ *eszerrel* 'this way'; *ilyenképpen* ~ *ezképpen* 'this way'; *ily* 'this (much)'; *ez* 'this'.

5.3. The vowel quality of phoric pronouns does not distinctly characterize the various types of reporting. (It is known that later on the vowel of phoric pronouns in direct speech will generally be front, in indirect speech it will generally be back.) From the proportions and their changes we can state that in direct speech the various uses of phoric pronouns have been fixed to a greater extent than in indirect speech. While in direct speech, in the first period, the number of phoric pronouns with front vowels is just slightly higher than that of those with back vowels, and the rate of front-vowelled phoric pronouns increases only by the second period, in indirect speech, phoric elements with back vowels significantly outnumber those with front vowels already in the first period, and this tendency remains in the second period, too.

The choice of vowel quality of the phoric expression may be accidental, may depend on personal taste, dialect, or speaking habits. Both front and back vowels may alternate even within the same dialogue. In *Bűnök és erények vetélkedése* [The rivalry of sins and virtues] (*Bod-kódex*, 13–5), among the pronouns *ezt* ~ *azt*, occurring at least once in every utterance pair, the one with the front vowel occurs in just a little more than 50% of the cases. The back variant occurs scattered around in various parts of the text; apparently, the scriptor only wished to liven up the repetitive structure occurring in great numbers.

The velar variant in *úgy mond* seems to be stable right from the onset of its occurrence. One may, however, come across one or two examples of *így* in some texts:

> Kírọl *ígmond* zent Bernard doctor / Tudom hoǵ az en erdomom nem eleg ennekọm (NádK. 57)
>
> *igy mond* uala: Az zep tizta teztan (SándK. 2r)

There are codices—e.g., the *Guary*, the *Nádor*, the *Winkler*, the *Érsekújvári* and the *Debreceni*—which favour the palatal variant, probably due to dialectal reasons (Haader 1993, 136). The listing of the phoric elements of *Szent Katalin-legenda* above shows that besides the many forms with front vowels, there are but two forms with back vowels. Even these pop up only rarely and only to serve a special function: *úgy* is found in texts quoting authorities in the expression *úgy mond*, while *azt* occurs before the head verb of indirect speech. János Sylvester, who often inserts phoric words in the direct speech structures of his Bible translations, uses the palatal variant, whereas in the *Jordánszky-kódex*, and the Pesti- and Károlyi Bibles—sometimes applying the same method—the vowel quality varies.

Sometimes the forms with front vs. back vowels serve different functions. It is a concomitant characteristic of the minutes of lawsuits that the utterances of speakers are emphasized by phoric expressions. In one part of lawsuit texts recorded in the 16th century—especially in texts originating from Szalónak—one can notice that sentences uttered at the present place and time are referred to by using phoric elements with palatal vowels, independently of the quotation being direct (linked direct) or indirect. If the facts of the case are recalled with places and times in the past, the pronoun used generally has velar vowels in both types of reporting; but, especially in direct (and linked direct) speech, the palatal variant also shows up. In the structures we are considering, we can witness the struggle of two early rules, of which neither applies consistently in our periods. First, a form with front vowels refers to something close in place and time, while the one with back vowels refers to something farther away; but secondly, a form with front vowels refers to something standing outside the text (i.e., to direct and linked direct speech, which, in spite of the phoric expression standing before it, is fundamentally a type of direct speech too), while the one with back vowels refers to something inside it (i.e., to the indirect speech forms of the text).

5.4. The phoric pronoun is usually positioned before the head, but in a smaller set of the expressions it may also stand after the head of the reporting main clause. In modern Hungarian (most typically in declarative-positive main clauses preceding the subordinate clause), the pronoun goes to the end and is destressed provided the quotation is the topic of the sentence; if the quotation is the comment, which is the more frequent situation, the phoric expression stands in front and it is stressed (Kiefer 1986, 207–8). In the periods we are considering in this paper, the word order of the structures is not regulated to the extent that it can express the topic–comment division; the quotation has the role of comment even if it stands at the end. Yet, sometimes unusual word order may have the effect of arousing the reader's attention to a greater extent:

> Attyam ... hallak tegedett ʒolnÿ ... *monduan aʒt* | kÿ vagÿ te (JókK. 45)
>
> ergalmazofyam *mongyad* akar chak *azth*, hogh halyak meegh the veleed (WinkK. 91)

FEATURE UNDER CONSIDERATION	OLD DIRECT	MAJOR CHANGE IN THE PERIOD	OLD INDIRECT	MAJOR CHANGE IN THE PERIOD	MODERN DIRECT	MODERN INDIRECT
lack of main clause	rare	becomes frequent in dramas	none	—	frequent	rare (floating sub. clause)
position of main clause	in front, with a few exceptions	wedging is slowly spreading	in front, with a few exceptions	—	in front, at the end, wedged*	in front, with a few exceptions
word order of main clause	SV, VS	the number of VS is decreasing	SV	—	in front: S(O)V, at the back, wedged: VS**	S(O)V**
marking in writing	scriptor- and document-dependent	punctuation marks & capital letters in print	scriptor- and document-dependent	comma & lower case letters in print	special punctuation marks***, plus capital letters	comma & lower case letters
the head	*mond* dominates; double heads	other verbs are also spreading****	other verbs too, no double heads	various verbs	any kind of verb (in inorganic relation)	any verb (?) (inorganic relation)
conjugation of heads	more often indefinite than definite	definite is spreading	more often definite than not	—	typically definite	typically definite
phoric pronouns	start off from conspicuous minority	strongly on the spread	in minority	spreading	frequent in main clauses in the front	frequent in main clauses in the front
vowel quality of phoric pronouns	front as well as back	front is spreading	usually back, but front too	—	typically front	typically back
placement of phoric pronouns	usually before the head	—	usually before the head	—	can signal informativity relations	can signal informativity relations

* In a meaning-condensing inorganic relation the main clause usually stands at the end, occasionally wedged into the clauses of the quotation.

** As far as neutral and the most often used word order is concerned. In the structure (O) is the optional phoric pronoun.

*** Punctuation depends on the order of the main clause and the quotation, as well as on whether the quotation renders the recent words of the character of the text or it is the repetition of something having been uttered or written earlier. In the former case, the use of the em-dash is the typical (even in the case of continuous dialogues without main clauses), in the latter case, the colon and the quotation marks are used. (On the rules, cf. AkH. 104–6.)

**** For the sake of simplicity, I only mention the most often used reporting word class, the verb.

6. Summary and conclusion

For the sake of perspicuity, the table on p. 366 sums up the most important characteristics of reporting main clauses of the period, which are supplemented by remarks on the modern linguistic situation. (The latter are included here with the aim to guide the reader, and not so much to attempt to provide a comparison, for there have been plenty of significant changes occurring in the structure and use of reported speech in the four centuries since the periods we have been investigating, and the methodology of micro-diachrony requires that the exploration of the linguistic state and processes of Late Old Hungarian and Early Middle Hungarian continue with the analysis of further details of the Middle Hungarian era, cf. Károly 1980, 48–50.)

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DIE POSTALVEOLARE ASSIMILATION UND IHRE AUSNAHMEN AUS DER SICHT DER UNGARISCHEN SPRACHGESCHICHTE

TAMÁS FORGÁCS

Auszug

Der Verfasser untersucht die verschiedenen Typen der postalveolaren Assimilation in den unterschiedlichen Imperativformen der ungarischen Verben auf *-t* (z. B. *szeret→szeress* bzw. *tanít → taníts* [spr. *taníccs*]). Die generative Phonologie hat in den letzen Jahrzehnten mehrere Lösungsvorschläge für dieses Phänomen präsentiert. So wurde der lange Vokal vor dem *-t* zuerst als eine Verbindung aus einem kurzen Vokal und einem Konsonanten aufgefasst (den man schließlich mit dem *j* identifiziert hat). In der CV-Phonologie und in der X-Ebenen-Phonologie wurde dieser Konsonant — etwas abstrakter — als eine C- bzw. X-Einheit dargestellt.

Der Verfasser versucht in seinem Artikel nachzuweisen, dass diese Ergebnisse eigentlich mit den früheren sprachhistorischen Erklärungen völlig in Einklang zu bringen sind und durch die Etymologie dieser Wörter (somit ihren eigentlichen morpholgischen Aufbau) zu erklären sind. Daher ist es bedauerlich, dass die modernen Richtungen die Ergebnisse der Sprachgeschichte meistens kaum berücksichtigen: wünschenwert wäre, dass beide Richtungen mehr Affinität für die Ergebnisse der anderen aufweisen, und somit ihre Forschungen durch diese bereichern würden.

1. Die Frage der postalveolaren Assimilation in Imperativformen der Verben mit auslautendem *-t* hat schon viele ungarische Linguisten beschäftigt. Wie bekannt, können zwei Typen des hier auftretenden Wechsels unterschieden werden: in dem einen verschmilzt das auslautende *-t* und das Imperativzeichen *j* zu /ʃ:/, in dem anderen zu /ʧ:/ Zu beiden Typen gehören je zwei Verbgruppen.

(1) Zu den Verben mit *s*-Assimilation gehören

(a) alle Verben mit auslautendem *-t*, in denen vor dem *-t* ein kurzer Vokal steht, z. B. *szeret* + *j* → *szeress* 'liebe!'; *köss* 'binde!' usw.

(b) die Verben *lát* 'sehen', *bocsát* 'verzeihen' und *lót(-fut)* 'sich abjagen': *lát* + *j* → *láss; bocsáss, lóss(-fuss)*

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(2) Zu den Verben mit *cs*-Assimilation gehören

(a) alle Verben mit Auslautendem *-t*, in denen vor dem *-t* ein Konsonant steht (der kann nur ein Sonorant: *l, r, j, m, n* sein), z. B. *bont* + *j* → *bonts* 'löse (auf)!'; *márts* 'tauche (ein)!', *tölts* 'fülle (ein)!', *onts* 'vergieße!'

(b) alle Verben mit dem Derivativsuffix *-ít*, sowie die Verben *fűt* 'heizen', *hűt* 'kühlen', (*dűt*) 'stürzen', *műt* 'operieren', *szít* 'schüren', *tát* '(Mund) aufmachen' und *vét* 'sündigen', z. B. *tanít* + *j* → *taníts; fűts, véts.*

Die unterschiedlichen Assimilationsprozesse bei den Gruppen des Typs (1) sind aufgrund des unterschiedlichen phonologischen Aufbaus der beiden Gruppen leicht zu erklären, Probleme bedeuten eher die unterschiedlichen Assimilationserscheinungen bei der Gruppe (2). Über ihr verschiedenartiges Benehmen während der Assimilation haben sich zwei Erklärungsversuche konstituiert. Laut Lotz (1960; ungarisch 1976, 173), Deme (1961, 103), Papp (1966, 143), sowie Abondolo (1988, 146) entspricht die Assimilation mit *cs* den Regeln und die Assimilation mit *s* verstößt gegen die Regeln. Laut dieser Auffassung nehmen an dieser Assimilation Stämme mit einer Silbe von zwei Moren im Auslaut (d. h. vor dem *-t* steht ein kurzer Vokal) teil, während an der Assimilation mit *cs* sind Stämme mit einer Silbe von mehr als zwei Moren im Auslaut (d. h. vor dem *-t* steht ein langer Vokal oder ein Konsonant) beteiligt.

In letzter Zeit haben generative Phonologen mehrere Lösungen zur Klärung des Phänomens vorgeschlagen, vgl. Szépe (1969), Vago (1980; 1987; 1991), Siptár (1990; 1994; 1995), Olsson (1992) und Zsigri (1997). Für sie ist ausschlaggebend, ob das Segmentum vor dem *-t* ein Vokal oder ein Konsonant ist, so gelten für sie die Formen wie *láss* zusammen mit den Verben auf kurzem Vokal im Auslaut als regelmässige Formen. Ich zitiere hier einen Teil der Argumentation von Vago: „A hagyományos felfogás rövid és hosszú magánhangzó közötti megkülönböztetése nem egészen kielégítő: a tényeket ugyan leírja, de magyarázatot nem tud hozni arra, hogy (pár kivétellel) a mássalhangzók és a hosszú magánhangzók egyformán viselkednek a *t*-végű igék felszólító módjában. Ezzel szemben nyilvánvaló, hogy ha a hosszú magánhangzókat legalábbis részben mássalhangzónak elemezzük egy mélyebb fonológiai szinten, akkor a *márt* és *fűt* féle igék egységes viselkedése a *fut* félékhez viszonyítva rögtön kiugrik. De ez csak akkor lehetséges, ha a fonológiai elmélet több leíró szintet ismer el. Pontosan ezzel az érvvel, többek között természetesen, járult hozzá a hatvanas és hetvenes évek generatív teóriája a fonológiai tudomány előrehaladásához. [Die Unterscheidung der traditionellen Auffassung zwischen kurzem und langem Vokal reicht nicht ganz aus: sie beschreibt zwar die Tatsachen, kann aber keine Erklärung dafür geben, warum die Konsonanten und die langen Vokale (mit einigen Ausnahmen) im Imperativ der Verben mit *-t*

im Auslaut sich gleich verhalten. Dagegen ist es eindeutig, dass das einheitliche Verhalten der Verben wie *márt* und *fűt* gegenüber den Verben wie *fut* gleich ausspringt, wenn man auf einer tieferen phonologischen Ebene die langen Vokale mindestens zum Teil als Konsonanten analysiert. Das ist aber nur dann möglich, wenn die Theorie der Phonologie mehrere Beschreibungsebenen akzeptiert. Genau durch dieses Argument, unter anderen natürlich, hat die generative Theorie der sechziger und siebziger Jahre zur Entwicklung der Phonologie als Wissenschaft beigetragen.]" (Vago 1991, 683).

Dann stellt Vago auch die verschiedenen Lösungsversuche vor, durch die die moderne Phonologie die Frage der postalveolaren Assimilation zu lösen glaubte. Er präsentiert drei verschiedene Lösungen, die zeitlich einander folgen.

1.1. Generative Phonologie

Die generative Phonologie fasst den langen Vokal vor dem *-t* als eine Einheit aus einem kurzen Vokal und einem Konsonanten auf. So setzt sich im Imperativ der Verben wie *márt* und *fűt* die gleiche Regel durch: steht vor dem *-t* ein Konsonant, dann kommt aus dem *-t* und dem Imperativzeichen *j* geschrieben *ts*, gesprochen *cs* zustande, letztlich fällt der Konsonant vor dem *-t* weg und verlängert den davorstehenden Konsonanten. Schematisch:

(3) *füCt* + *j* (*C* = Konsonant)
füCts
fűts (vgl. Vago 1991, 683; auch Szépe 1969, 458–9).

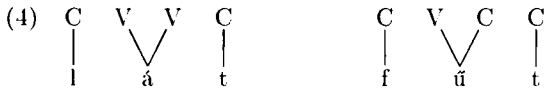
Als Nächtes untersucht Vago (a.a.O.), welcher Konsonant sich hinter diesem „Phantom-Konsonanten", der im erwähnten Falle verschwindet, aber auf den davorstehenden Vokal eine Dehnwirkung ausübt, stecken kann. Da dieser Konsonant gegen keine phonotaktische Regel stößen kann, untersucht er das Material des Rückläufigen Wörterbuches des Ungarischen (Papp 1969) und stellt fest, dass (mit Ausnahme von *s* und *sz*) am Ende des Stammes oder des Derivativsuffixes vor dem *-t* nur *j, l, m, n* und *r* stehen können. Von denen kann man *l, n, r* und *m* nicht akzeptieren (vgl. z. B. die Imperativformen der Verben *tilt, int, irt, teremt*, in denen der Konsonant vor dem *-t* erhalten bleibt), es bleibt also nur das *j* übrig. Das heißt, dass Verben wie *szít, fűt* in der generativen Phonologie als *szijt* und *fűjt* zu beschreiben sind, woraus folgt, dass die Veränderungen im Imperativ dieser Verben einheitlich beschrieben werden können, abhängig davon, ob vor dem *-t* entweder ein — egal ob kurzer oder langer — Vokal oder ein Konsonant postuliert wird (vgl. Vago 1991, 684).

1.2. CV-Phonologie

In den späteren Arbeiten von Vago büßt dieses *j* immer an Konkretheit ein, da *fújt* dem ausgesprochenen *fűt* nur aus phonologischem Gesichtspunkt entspricht, wahrlich kommt das *j* in diesen Wörtern nicht vor. Die Frage ist also, ob es überhaupt wichtig ist zu wissen, **was für** ein Konsonant vor dem *-t* steht, oder zur Erklärung der Tatsachen genügt es, **irgendeinen** Konsonanten zu postulieren, da zur richtigen Funktionierung der im Imperativ verwendeten phonologischen Regel nicht unbedingt der Konsonant *j* benötigt wird; wichtig ist nur, dass vor dem *-t* kein Vokal steht.

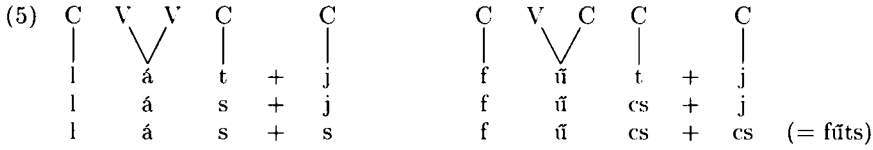
Im Rahmen der CV-Phonologie (vgl. auch Vago 1987) wird daher das unterschiedliche Verhalten der Verben wie *lát* 'sehen' bzw. *fűt* 'heizen' darauf zurückgeführt, dass der Wurzelknotenpunkt der Verben wie *lát* zu zwei V-Elementen gehört, während der von Verben wie *fűt* zu einem V und einem C:

(4)



Da also in Verben wie *fűt* vor dem *-t* in der CV-Zeile ein C steht, wird aus dem *t* ein *cs* und kein *s*, damit ist zu erklären, dass *fűt* und seine Gruppe sich so verhalten, als wenn vor dem *-t* ein Konsonant stehen würde:

(5)

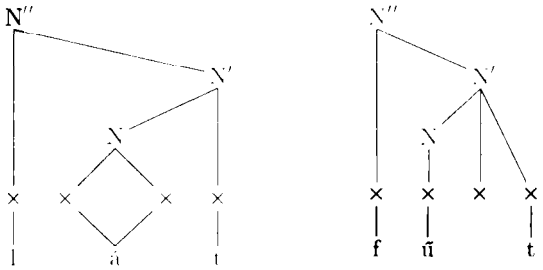


1.3. X-Ebenen-Phonologie

Die CV-Achse wird später von Vago durch eine X-Achse ausgetauscht. Das ist unter anderem deswegen nötig, da – wie wir gesehen haben – die CV-Phonologie zweierlei lange Vokale unterscheidet: der eine ist auf der CV-Ebene durch eine V- und eine C-Einheit, der andere durch zwei V-Einheiten vertreten. Dagegen könnte man aber den Einwand erheben, wieso ein (phonetischer) Vokal ein solches Zeichen haben kann, das normalerweise ein distinktives Merkmal für Konsonanten ist. Um diesen Widerspruch zu beheben, empfiehlt eine der neuesten Theorien der Phonologie, dass es sich nicht lohnt, auf der zentralen Ebene C und V zu unterscheiden, sondern man soll stattdessen leere, abstrakte

Positionen auf dieser Ebene postulieren. Diese Einheiten werden mit „×" bezeichnet (hierher stammt auch der Name der Theorie: X-Ebenen-Phonologie). Der strukturelle Unterschied zwischen *lát* und *fűt* ändert sich demnach folgendermaßen (vgl. Vago 1991, 686 8):

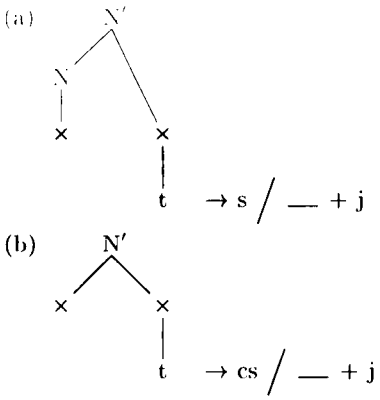
(6)



(N = Nukleus (Silbenkern), Konsonanten im Anlaut zweigen aus einer N''-Einheit ab, Konsonanten im Auslaut aus einer N'-Einheit, Vokale dagegen aus einer N-Einheit. Der Unterschied der beiden Beispiele rührt daher, dass man im Falle von *fűt* einen kurzen Vokal postuliert und gleich danach eine lautlose X-Einheit, was eigentlich nur bezweckt, dass der auslautende *-t* nicht gleich dem Nukleus folgt.)

Die Regeln der Palatalisierung im Imperativ der Verben mit *-t* im Auslaut sehen in dieser Darstellung folgendermaßen aus (Vago 1991, 687):

(7)



Die Regel (7a) lässt den auslautenden *-t* zu *s* werden, wenn die davorstehende X-Einheit zum Nukleus gehört, die Regel (7b) ruft dagegen einen *cs* hervor, wenn der *-t* und die davorstehende X-Einheit zu der gleichen silbenstukturellen

Einheit gehören, d. h. beide hinter einem Nukleus stehen. Somit hängt die Palatalisierung des *-t* von einem strukturellen Unterschied ab.[1]

2. Das waren also die wichtigsten Versuche für die Erklärung des Phänomens der postalveolaren Assimilation. Vago macht am Ende seines Aufsatzes, in dem er die auch von mir skizzierten Lösungen vorstellt, die folgende Bemerkung: „Összefoglalásként vegyük figyelembe azt, hogy az egyes elméleti keretek hogyan indokolják a *t*-végű igék azon tulajdonságát, hogy pár kivételtől eltekintve a *t*-t megelőző hosszú magánhangzók a rövidekkel szemben szisztematikusan mássalhangzókkal együtt csoportosulnak. A hagyományos nyelvészet a tényeket expliciten fejezi ki, s így eleve véletlen eseménynek számítja. Egy másik felfogás szerint a hosszú magánhangzó két egységre osztódik, ahol a második egység mássalhangzónak felel meg. Ez utóbbi a generatív fonológiában *j*-nek van feltéve, a CV-szintes fonológiában C-nek, míg az x-szintes fonológiában egy teljesen üres, semmi hanggal össze nem kötött időtartamjelnek. Mind magyarázatot ad a tényekre. Hogy melyik megközelítés a legelfogadhatóbb, az utóvégre metaelméleti megfontolás kérdése. Jelenleg az x-szintes fonológia tűnik a legreményteljesebbnek [Als Zusammenfassung sollen wir in Betracht ziehen, wie die einzelnen theoretischen Rahmen diejenige Eigenschaft der Verben mit *-t* im Auslaut begründen, dass die vor dem *-t* stehenden langen Vokale den kurzen gegenüber sich mit Konsonanten gruppieren. Die traditionelle Linguistik drückt die Tatsachen explizit aus, und rechnet sie damit von vornherein zu den zufälligen Ereignissen. Laut einer anderen Auffassung teilen sich die langen Vokale in zwei Einheiten, wobei die zweite Einheit einem Konsonanten entspricht. Der ist in der generativen Phonologie als *j* postuliert, in der CV-Phonologie als C, während in der X-Ebenen-Phonologie als ein völlig leeres, mit keinem Laut verbundenes Quantitätszeichen. Alle Lösungen geben auf die Tatsachen eine Antwort. Welche Lösung jedoch am ehesten zu akzeptieren ist, ist letzten Endes die Frage von metatheoretischen Überlegungen. Die aussichtsreichste von ihnen scheint zur Zeit die X-Ebenen-Phonologie zu sein]“ (Vago 1991, 690).

Setzt man die traditionelle Linguistik bloß mit der strukturellen Beschreibung gleich, kann man die Kritik von Vago als gerecht einstufen, da diese Art von Linguistik tatsächlich eher nur die Ausnahmen registriert hat, und fast

[1] Es gibt für das von uns untersuchte Phänomen auch noch weitere Lösungsversuche, so kommen z. B. in den Regeln von Siptár (1994, 10) das /ʃ:/ und das /ʧ:/ durch autosegmentale Verbreitung und Abkoppelung zustande, die Abbildung s. da. Zsigri (1997, 183) dagegen schlägt – die Regeln von Siptár etwas modifizierend – eine Analyse aufgrund des Silbengewichtes vor, darauf werde ich später noch kurz zurückkehren.

keine Erklärungsversuche unternommen hat. In dieser Hinsicht sind die Bemühungen der modernen Phonologie für die Erklärung der Ausnahmen eindeutig lobenswert (obwohl ich – im Gegensatz zu Vago – die Lösung der X-Ebenen-Phonologie, in ein dependentielles Modell ein Element einzuführen, das zwar von oben an einen Knotenpunkt gebunden ist, von unten jedoch keinerlei Verbindungen hat, für nicht besonders geglückt halte).

Die Frage ist aber, ob man nicht auch eine andere Erklärung für die Ausnahmen der Imperativformen der Verben mit *-t* im Auslaut finden kann. Fasst man die Sprache im Rahmen der generativen Theorie auf, kann man tatsächlich alle drei obigen Lösungsversuche akzeptieren. Fasst man jedoch die Sprache als historisches Produkt und als anzueignendes Regelwerk auf, soll man auch den Versuch unternehmen, auch aus diesem Aspekt eine Erklärung für die erwähnten Ausnahmen zu finden. Obwohl nämlich die obigen Lösungen als Regelsysteme kohärent zu sein scheinen, muss man trotzdem die Frage stellen, warum der lange Vokal in *fűt* und *hűt* als kurzer Vokal + Konsonant (oder X-Quantitätszeichen) funktioniert, warum aber das bei *lát* und *bocsát* nicht der Fall ist? Kann das nicht einen Grund haben, der in der Geschichte der Sprache verwurzelt ist?[2] Meiner Meinung nach ist eine solche Erklärung möglich. Meine Argumentation beruht in erster Linie auf der Etymologie (und auf der damit zusammenhängenden lautgeschichtlichen Entwicklung) dieser Verben.

Eine historische Erklärung hat übrigens auch schon Jakab (1967) unternommen, mit der Mehrzahl seiner Feststellungen bin ich selber einverstanden und werde eher etliche neue, meistens etymologische Argumente in die Erklärung einbeziehen.

Wie gesehen, können die Ausnahmen der palatovelaren Assimilation in Imperativformen der Verben mit *-t* im Auslaut in zwei Gruppen geordnet werden:

[2] Die *cs*-Palatalisation von *tát* und *vét* bedeutet auch für Vago Probleme (1991, 684), da auch er zugibt, dass bei diesen der lange Vokal nicht aus kurzen abgeleitet werden kann (siehe die Verben *hajt* und *fejt*). Hier widerspricht er gewissermaßen sich selbst, da er zuerst schreibt: „itt a hosszú *á* és *é* magánhangzók feltevése és a *j* kitörlése nyílt hosszú magánhangzók után biztonságos, mert igevégső *jt* előtt csak *ű* vagy *ú* található [hier kann man ruhig langes *á* und *é* postulieren und das *j* nach offenen langen Vokalen streichen, da vor *jt* im Auslaut der Verben nur *ű* und *ú* zu finden sind]" (a. a. O.), aber etwas später gibt er die Formen *tát* und *vét* doch in der Gruppe Konsonant + *-t*, mit den Antezedenzien *tájt* und *véjt* an, während z. B. *lát* – richtig – in der Gruppe langer Vokal + *-t* Platz findet. Außerdem darf man nicht vergessen, dass – wie auch Zsigri (1997, 182) darauf hinweist – *tát* und *vét* im 15. Jahrhundert noch in die Gruppe der Verben mit *s*-Assimilation gehörten, siehe z. B. AporK. 61: *ef netaffa en ream kut o ʒaiat*; BirkK. 2b: *hog ɵ bẽne iftẽnek ne veffetɵk* – ne in illa offendatur Deus (vgl. Jakab 1967, 195; auch E. Abaffy 1992, 140).

(8) (a) vor dem *-t* steht kein Konsonant, sondern ein (langer) Vokal, das *-t* wird jedoch nicht zu einem *-s*, sondern zu *cs*. Hierher gehören alle Verben mit dem Derivativsuffix *-ít* und die Verben *fűt, hűt (dűt), szít, műt*, sowie *vét* und *tát* (die gehörten früher zur Gruppe (8b))

(b) vor dem *-t* steht ein langer Vokal, das *-t* wird doch zu einem *s*: *lát, bocsát, lót(-fut)*, sowie mittelung. *öt(t)* 'gießen' (*össetek*) und *keát* 'schreien' (*keássátuk*)

Die moderne Phonologie erklärt das unregelmäßige Verhalten der Wörter der Gruppe (8a) damit, dass der lange Vokal in zwei Einheiten aufgesplittert wird, wobei die zweite Einheit einem Konsonanten (bzw. einem X-Quantitätszeichen) entspricht. Für mich war in diesem Zusammenhang die Auffassung der generativen Phonologie am interessantesten, die durch die Ausschließungsmethode darauf gekommen ist, dass dieser Phantom-Konsonant nur das *j* sein kann. Durch historische Belege können wir jedoch auch nachweisen, dass in den Verben der Gruppe (8a) früher tatsächlich ein *j* vor dem *t* stand. Die Mehrzahl der hierher gehörenden Verben ist nämlich eine Ableitung mit dem Derivativsuffix *-ít*, und wie darauf auch schon Jakab (1967, 194) hingewiesen hat, sind in dem Rückläufigen Wörterbuch des Ungarischen (Papp 1969) 490 solche Verben zu finden, außerdem kann man auch noch ihre präfigierten Varianten in Betracht ziehen. Das kausative Bildungssuffix *-ít* wird aber – wie bekannt – historisch aus fgr. **kt* durch eine Entwicklung *-χt* > *-χ́t* > *-jt* > *-ít* erklärt, wobei der lange Vokal von *-ít* (*-ét*) aus der Verschmelzung des Stammendvokals mit dem *j* stammt. Was also die generative Phonologie durch Ausschließung postuliert, kann die Sprachgeschichte durch historische Belege (vgl. die zahlreichen Belege wie *tanejt, fordejt, feszejt* 'lehren, umdrehen, spreizen' usw. in den Sprachdenkmälern des Mittelungarischen) und durch etymologische Argumente fundieren. Im Falle der auch in diese Gruppe gehörenden Verben *hűt, fűt, dűt* und *szít* hat auch schon Jakab (1967, 195) darauf hingewiesen (auch Szépe 1969, 459 verweist darauf), dass in früheren Belegen auch bei diesen Verben ein *j* im Stamm vorkommt. Das würde ich noch dadurch ergänzen, dass meines Erachtens dieses *j* auch hier nicht zufällig steht, sondern wahrscheinlich ein Teil eines verdunkelten kausativen Derivativsuffixes ist, denke man nur an solche mediale vs. kausative Oppositionspaare wie *fűl(ik)* – mittelung. *fűjt* ~ *fűt*; *hűl* – mittelung. *hüjt* ~ *hűt*; *dűl* – mittelung. *düjt, döjt* ~ dial. *dűt*, siehe die entsprechenden Stichwörter in dem Sprachgeschichtlichen Wörterbuch (Szarvas–Simonyi 1890–1893) oder im Ungarischen Dialektwörterbuch (Szinnyei 1893–1901). In diesen Verben schließt sich also wahrscheinlich zu einem vokalisch auslautendem passiven (fiktiven) Stamm das mediale Bildungssuffix *-l*, bzw. das kausative Bildungssuffix *-ít* (< *jt*), und in den kausativen Formen stammt der lange Vokal tatsächlich aus der Verschmelzung eines kurzen Vokals

und dem *j* (*i̯*), in den medialen Formen kann man sowohl mit der Dehnwirkung des nachstehenden *-l* und der Tonsilbe, als auch mit der Analogie des kausativen Paares rechnen.

Was das Verb *szít* betrifft, ist die Lage nicht mehr so eindeutig, da wir für *szijt* 'schüren' zwar etwaige Belege haben (vgl. Szarvas–Simonyi 1890–1893, III, 260), eine mediale Variante *szil(ik)* jedoch nicht nachzuweisen ist. Das bedeutet aber noch nicht, dass sie auch nicht hat existieren können, auch schon deshalb, weil auch in *szít* das kausative Charakter stark zu spüren ist ('er verursacht, dass das Feuer zu lodern anfängt', vgl. noch *gyúl(ik)* ~ *gyul(lad)* vs. *gyújt* 'sich entzünden vs. etw. anzünden').[3]

Von den weiteren drei Verben ist *műt* die künstliche Schöpfung von Pál Bugát, somit ist es aus dem Gesichtspunkt der Regel irrelevant, da seine Imperativformen offenbar nach den phonologisch ähnlich aufgebauten Verben wie *fűt*, *hűt* gebildet worden sind.[4] Problematisch sind daher nur die Imperativformen von *vét* 'sündigen, gegen etw. verstoßen' und *tát* '(den Mund/die Augen) groß machen', da sie laut ihrem phonologischen Gestalt nicht hierher gehörten, sondern in die Gruppe, in der das *-t* zu *-s* wird. Ihre Herkunft ist zwar nicht ganz klar, sie sollen jedoch wahrscheinlich auch aus etymologischem Gesichtspunkt nicht hierher gehören, da in ihnen das *-t* kein kausatives Suffix sein soll. Wir wissen aber (siehe oben), dass wir aus früheren Jahrhunderten auch Belege haben, in denen diese Verben mit *s*-Imperativ vorkommen, sie gehörten also nicht immer zur Gruppe der Verben mit *cs* im Imperativ. Der Gruppenwechsel ist aber im Falle von *vét* durch die Bestrebung, die störende Homonymie mit den Imperativformen von *vés* 'meißeln' leicht zu erklären. Im Falle von *tát* hat man schon größere Probleme mit der Erklärung, hier kann man nur die Wirkung der Analogie hinter dem Wechsel vermuten, oder eventuell noch das, was Zsigri vorschlägt, nämlich dass die Distinktion Vokal–Konsonant in der Kompetenz der Sprecher durch die Distinktion aufgrund des

[3] In dem Ungarischen Dialektwörterbuch (Szinnyei 1893–1901) kommt zwar ein Verb *szül* vor (II, 558), das ist aber nicht das mediale Pendant von *szít*, sondern eine Formvariente von *szí, szív* 'saugen' (vgl. noch *nő* : *növök*, aber *nől* 'wachsen').

[4] Zsigri (1997, 193) bemerkt, dass zwar in diesem Verb vor dem *-t* nie ein Vokal stand, aber da *mű* auch eine Stammvariante mit einem Konsonanten hat (*műv-*), dieses Verb auch die Analyse mit einem latenten Konsonanten unterstützen könnte. Das wäre prinzipiell vielleicht möglich, ich bezweifle aber, das bei einer so frischen und bewussten Schöpfung nicht eher die Analogie der Verben wie *fűt* als das zu folgende Muster für die Bildung der Imperativformen gegolten hätte. Auch schon deshalb, weil – wie wir früher schon gesehen haben – laut des Materials des Rückläufigen Wörterbuches das *v* vor dem *-t* nicht vorkommt, es ist also unwahrsheinlich, dass die Imperativformen von *műt* auf einen Antezedent **művt* zurückzuführen wären.

Silbengewichtes abgelöst wurde (1997, 183). (Da aber die Etymologie von *tát* unsicher ist, ist es auch nicht auszuschließen, dass dieses Verb eine frühere Form *tájt* besaß: erklärt man das Verb nämlich aus dem fiktiven Stamm des Adjektivs *tág* 'weit, vast' und des Verbs *tár* 'öffnen', und fasst man das *-t* im Auslaut als ein faktitives oder kausatives Derivativsuffix auf — wie das vom Etymologischen Wörterbuch (Benkő 1967–1976, III, 864) vorgestellt wird — ist diese Lösung mindestens nicht auszuschließen. In diesem Falle wäre die Form aus dem Apor-Kodex (*tássa*) als Ausnahme zu betrachten, eine besondere dialektale Form.) Insgesamt ist aber doch wahrscheinlicher, dass die ursprüngliche Form die mit *s* ist (*tássa*) und für mich scheint die Argumentation von Zsigri akzeptabel zu sein, indem er behauptet, dass diese wegen der Bevorzugung der auf dem Silbengewicht beruhenden Unterscheidung in die Gruppe mit *cs* gelangte. (Wahrscheinlich kamen auch die Verben *keát* ~ *kiát* 'schreien' und *öt(t)* 'gießen' aus der *s*-Gruppe in die Gruppe mit *cs* im Imperativ, aber in diese wurde — als inetymologisches Zusatzlaut bzw. auf die Analogie der Verben wie *bont, ront* — ein Phonem *-l* bzw. *-n* eingeschoben. Es ist aber sehr schwer zu sagen, ob diese wegen der Bevorzugung der Unterscheidung aufgrund des Silbengewichtes hierher gelangten und erst nachher diese Phoneme eingeschoben wurden, oder die betreffenden Phoneme schon früher eingeschoben wurden und der Gruppenwechsel deshalb erfolgt ist, da sie vor dem *-t* einen Konsonanten erhalten haben).[5]

Wir haben also gesehen, dass in der Mehrheit der Verben, in denen vor dem *-t* ein langer Vokal steht, früher tatsächlich ein Konsonant, und zwar wirklich — und nicht nur durch die Ausschließungsmethode — ein *j* vor dem *-t* stand und das ist der Grund, warum diese Verben die postalveolare Assimilation betreffend sich genauso verhalten wie die Verben, in denen vor dem *-t* auch heute ein Konsonant steht. Die Verben, die heute in die Gruppe mit

[5] All das hängt auch von der Etymologie der betreffenden Verben ab: im Falle von *kiált* schließt aber auch das Etymologische Wörterbuch (Benkő 1967–1976, II, 482) nicht aus, dass das *-l-* möglicherweise kein inetymologisches Zusatzlaut, sondern ein Derivativsuffix ist: in diesem Falle soll man aber in dem Beleg der Leichenrede (HB.) *keássátok* den Ausfall des *-l-* postulieren, was dann zu einer Imperativform mit *s* geführt hat. Im Falle von *önt* hält das Etymologische Wörterbuch (III, 31) die Form *öt(t)* für die ursprüngliche Form, die Form *önt* 'giessen' soll durch Analogie entstanden sein. Eine Entwicklungsreihe *ömöl* ~ *ömlik* – *önt* (< *ömt*) ist aber aufgrund der Reihen *romol* ~ *romlik* – *ront* (< *romt*) '(sich) verderben'; *bomol* ~ *bomlik* – *bont* (< *bomt*) '(sich) auflösen' usw. auch nicht auszuschließen, und wenn das so ist, dann sollte auch dieses Verb wegen dem Konsonanten vor dem *-t* in die *cs*-Gruppe gelangt sein. In diesem Falle wäre *ött*, bzw. die dementsprechend gebildete Imperativform *öss* durch Konsonantenausfall entstanden.

cs im Imperativ gehören, aber vor dem *-t* einen Vokal beinhalten wie *vét, tát, keát* und *ött*, gehörten laut Belegen aus früheren Zeiten nicht in diese Gruppe, sondern in die Gruppe von *lát, bocsát* und *lót(-fut)*, d. h. zu den Verben mit *s* im Imperativ und sie gelangten nur wegen Beseitigung der störenden Homonymie, bzw. durch die Einfügung von zusätzlichen Konsonanten in die Gruppe mit *cs* im Imperativ. Das Verb *tát* — wenn es wirklich keine frühere Form als **tájt* besaß — gelangte durch die Bevorzugung der Unterscheidung aufgrund des Silbengewichtes in die andere Gruppe.

Meiner Meinung nach war es also in Betracht der postalveolaren Assimilation nicht die Tatsache wichtig, ob der Vokal vor dem *-t* kurz oder lang ist. Die Regel konnte sich eher so gestaltet haben, dass das *-t* im Auslaut (und mit ihm zusammen das Imperativzeichen *j*) zu *-s* wurde, wenn vor dem *-t* ein — egal ob kurzer oder langer — Vokal stand, falls aber vor dem *-t* ein Konsonant stand (das *j*-Element des kausativen Bildungssuffixes *-jt* einbegriffen), dann wurde das *-t* (und das Imperativzeichen) zu einem *cs*.[6] Demnach gelten die heutigen Imperativformen der Verben wie *fűt* als Überbleibsel aus einer früheren Zeit, wo das *j*-Element des Suffixes nocht nicht vokalisiert wurde,[7] *lát, bocsát* und *lót-(fut)* stehen nur scheinbar als Ausnahmen da; die Ursachen des Gruppenwechsels der früher in die *s*-Gruppe gehörenden *vét, tát, keát* und *ött* habe ich schon erwähnt. Als Analogie für den Gruppenwechsel konnten die vielen Verben mit dem Suffix *-ít* gedient haben: deren Imperativformen gehörten nämlich in die Gruppe mit *cs* im Imperativ, da in ihnen vor dem *-t* tatsächlich ein Konsonant (*j*) stand. Durch die Vokalisierung von *j* und durch die Monophthongierung des so entstandenen Diphthonges gelangten sie in die Gruppe, in der ein Vokal vor dem *-t* steht, ihre Imperativformen blieben aber von diesem Wechsel unberührt, da sind die Formen mit *cs* erhalten geblieben. (Wie bekannt, zeigen die Imperativformen dieser Verben auch noch in der späten altungarischen Zeit große Schwankungen auf, in vielen Sprachdenkmälern findet man neben den Formen mit *cs* auch Lösungen, die aus der früheren Form des

[6] E. Abaffy (1992, 143) ist der gleichen Meinung: „[...] a **mássalhangzó** + *t*-ből *cs* lett [...], a rövid vagy hosszú **magánhangzó** + *t*-ből pedig *ss* jött létre [aus einem Konsonanten + *t* wurde *cs* [...], aus einem kurzen oder langen Vokal + *t* wurde *ss*]".

[7] Wie auch im Adverb *haza* 'nach Hause' die ursprüngliche kurzvokalische Stammform von *ház* erhalten blieb (vgl. noch *hazulról*), obwohl in die Form *háza* < (*házá*), die den gleichen phonologischen Aufbau hat, aber am Ende kein Lativsuffix, sondern ein Besitzerzeichen beinhaltet, die neuere, durch Ersatzdehnung entstandene Stammvariante eingedrungen ist. Das ist wahrscheinlich gerade deswegen passiert, damit die störende Homonymie mit *haza* aufgehoben wird, da sonst diese Stämme finnisch-ugrischen Ursprungs vor den Besitzerzeichen meistens die kurzvokalische Stammform aufweisen, z. B. *keze, nyara* 'seine/ihre Hand, sein/ihr Sommer' usw.

Derivativsuffixes (*ɣ́t*) und des Imperativzeichens (*χ*) durch das Wegfallen des *-t-* (*ɣ́t* + *χ* > *χχ*) entstanden sind (vgl. z. B. HB. *zoboducha*, CzechK. 34: *batoroh*, 51: *keferōhed*, usw.), die Formen mit *cs* gewinnen aber Schritt für Schritt die Oberhand und auch E. Abaffy (1992, 143) sieht gerade in diesen die Quelle der Veränderung des Regelsystems für die Bildung der Imperativformen der Verben mit *-t* im Auslaut (s. auch die Fußnote Nr. 6): „az új szabály értelmében, ha a hosszú magánhangzó az *-ít* képző eleme, a felszólító mód jelével való kapcsolat nem *ss*-et, hanem *ccs*-t eredményez [im Sinne der neuen Regel — wenn der lange Vokal zum Suffix *-ít* gehört — wird die Verbindung mit dem Imperativzeichen *j* nicht zu *ss*, sondern zu *ccs*]". Das können wir noch damit ergänzen, dass einige andere Verben wie *fűt*, in denen das frühere *j* auch vokalisiert wurde, wahrscheinlich die gleiche Entwicklung durchgemacht haben. All das hat dazu geführt, dass ein Muster dafür entstanden ist, dass bei Verbindungen von langem Vokal + *t* im Imperativ neben den Formen mit *s* auch Formen mit *cs* möglich waren. Weil die nach der alten Regel mit *s* gebildeten Formen von *vét* homonym waren mit den Imperativformen von *vés*, hat die Sprache die neue Möglichkeit gleich ausgenutzt und die störende Homonymie aufgehoben. Auch im Falle von *keát* und *ött* sind die neuen Formen mit *cs* in den Vordergrund getreten, obwohl — wie schon früher erwähnt — hier die vor dem *-t* gelangten Konsonanten der Grund des Gruppenwechsels sein können. Im Falle von *tát* kann man aber eher mit der Analogiewirkung der vielzähligen Verben mit dem Suffix *-ít* rechnen. Es wirft sich noch die Frage auf, warum die Imperativformen von *tát* verändert wurden (hier kann man den Wechsel in die *cs*-Gruppe wahrscheinlich damit erklären, dass die Unterscheidung aufgrund des Silbengewichtes stärker wurde) und warum ist das bei *lát* und *bocsát* nicht eingetreten? Dafür kann man aber ziemlich leicht eine Antwort finden, da es in der Sprachwandeltheorie als Binsenwahrheit gilt, dass die sog. starken Elemente dem Wandel besser widerstehen können, als schwache Elemente. Wohl bekannt ist auch, dass seltenere Wörter schwächer gelten als hochfrequente Wörter. Was den Häufigkeitswert des Wortes *lát* (gegenüber *tát*) betrifft, ist die Lage ganz eindeutig, da *lát* in dem Häufigkeitswörterbuch der schöngeistigen ungarischen Prosaliteratur (Füredi–Kelemen 1989) an Stelle 38. steht, während *tát* im Wörterbuch überhaupt nicht vorkommt, aber auch *bocsát* soll wesentlich frequenter sein als *tát*. (Diese Zahlenangaben stammen zwar aus dem heutigen Sprachgebrauch, es ist aber unwahrscheinlich, dass die Frequenz dieser Verben im Mittelungarischen wesentliche Unterschiede zum heutigen Gebrauch hat aufzeigen können.) Das Verb *lót* ist zwar ebenfalls sehr selten, es hätte also eigentlich in die andere Gruppe gelangen können, da es aber eigentlich immer als Vorderglied des Zwillingswortes *lót-fut* vorkommt, ist es leicht

zu verstehen, wieso die Imperativform *lóss* nicht zu *lóccs* werden konnte, da das zweite Glied eine schützende Wirkung gegen eine solche Tendenz auf das vordere ausgeübt hat.

Zieht man also auch die früheren Belege bzw. die Etymologie der Verben, die als Ausnahmen der postalveolaren Assimilation gelten, in Betracht, kann man auch — zwar aus einer ganz anderen Grundstellung — eine Antwort auf die Frage der Ausnahmen geben, sogar vielleicht auf darauf, warum das von der generativen Phonologie nur postulierte, von uns aber auch historisch belegte *j*-Element bei Verben wie *lát* und *bocsát* nie vorkommt: wahrscheinlich deshalb, weil diese vor dem *-t* nie einen Konsonanten beinhaltet haben, (obwohl letzteres neben *bocsát* — wahrscheinlich durch Analogie — auch eine Variante *bocsájt* hat, aber das türkische Etymon (**bošat*) zeigt es ganz eindeutig, dass vor dem *-t* früher ein Vokal gestanden haben soll).[8]

Ich hoffe, mit meiner Argumentation konnte ich beweisen, dass man die historischen Belege und die von der historischen Forschung schon erreichten Ergebnisse trotz der befruchtenden Wirkung der modernen Theorien nicht aus den Augen verlieren sollte.[9] Es ist sehr interssant zu beobachten, wie eine sich

[8] Tamás Szende, der Lektor meines Aufsatzes meint, man könnte auch in einem prediktiven Regelsystem die unregelmäßigen Formen durch historische bzw. semantische Bezifferung ergänzen, wodurch eine Einheit des deskriptiven und des historischen Aspektes zustandekommen würde. Er meint, Anomalien treten da auf, wo die lexikalische Bedeutung entweder mit Körperfunktionen zusammenhängt (*tát*) oder eine sakrale Komponente beinhaltet (*vét*), während z. B. beim türkischen *bošat* 'entleeren, befreien' das nicht der Fall ist.

[9] Dafür könnte man auch weitere Beispiele aufführen. So verwendet z. B. Vago (1991, 689) die lautlose X-Einheit nicht nur für die Erklärung der postalveolaren Assimilation, sondern auch für die Erklärung des Quantitätswechsels in *v*-Stämmen. Seines Erachtens gelangt die lautlose X-Einheit vor Vokalen in Silbenanlautposition. Diese leere Einheit wird dann entsprechend der Regel mit einem *v* ausgefüllt. Wenn aber dieses X nicht als Silbenanlaut aufgebaut werden kann (so im Wortauslaut bzw. vor Konsonanten), dann schließt sich diese X-Einheit dem vorangehenden Vokal an und bildet mit ihm einen langen Vokal. Als Beispiel erwähnt er die Opposition *ló* : *lova* 'Pferd : sein Pferd' und bemerkt weiter: „kiderül, hogy egységes érvvel lehet megmagyarázni a hosszú magánhangzók viselkedését két látszólag különböző szótípusban [es stellt sich heraus, dass man das Benehmen der langen Vokale in zwei scheinbar verschiedenen Worttypen (nämlich in den *v*-Stämmen und in den Fällen der postalveolaren Assimilation T. F.) erklären kann]". Wir wissen aber aus der ungarischen Sprachgeschichte und der vergleichenden Sprachwissenschaft, dass dieses *-v-* in diesen Wörtern ursprünglich zum Stamm gehörte (das ugrische Etymon von *ló* kann **luβ3* oder *luγ3* gewesen sein, vgl. Benkő 1967–1976, II, 777). Nach dem Schwund des Stammendvokals wurde das *β* im Auslaut zu einem Semivokal und bildete mit dem vorangehenden Vokal einen Diphthong. Nach Vereinfachung des labialen Diphthonges bildete sich ein langer Vokal: **loβ8* > **loβ* > *lo͡u* > *ló* oder **kiβe* > **kiβ* > *ki͡ü* > *kű* > *kő*. Wenn aber nicht der Stammendvokal, sondern

so dynamisch entwickelnde Disziplin wie die moderne Phonologie immer neue Argumente und Lösungsversuche vorführt, um die Ausnahmen der postalveolaren Assimilation erklären zu können. Man muss auch zugeben, dass man bei manchen Sprachen, deren Geschichte nicht bekannt ist, andere Erklärungsmethoden (ausser der inneren Rekonstruktion und der Universalienforschung) auch nicht hat. Bei Sprachen aber, deren frühere Entwicklungstendenzen auch durch Belege zu erforschen sind und deren Verwandte man auch kennt, wodurch man aufgrund der Ergebnisse der vergleichenden Linguistik sogar auch über ihre Epochen vor den schriftlichen Denkmälern gewisse Informationen hat, sollte man nicht bei der Suche nach deskriptiven Erklärungen stehenbleiben. In der Sprachwandelforschung gilt es nämlich als ein Gemeinplatz, dass in der Synchronie einer Sprache auch ihre Diakronie enthalten ist, d. h. der heutige Zustand ist der Endpunkt einer historischen Entwicklung (und der Ausgangspunkt für die weitere Entwicklung).[10] Zoltán Gombocz hat noch 1922 in seiner Arbeit *Nyelvtörténeti módszertan* [Methodik der Sprachgeschichtsforschung] geschrieben: „a nyelvtudománynak nincsenek ahistorikus diszciplinái: minden olyan értelmezés, amely a nyelvtörténet adatait figyelmen kívül hagyja, csak hézagos és értéktelen, vagy éppen helytelen eredményekre vezet [die Linguistik hat keine ahistorischen Disziplinen: alle solche Interpretationen, die die Angaben der Sprachgeschichte außer Acht lassen, sind unvollständig und wertlos, oder sie führen gerade zu falschen Ergebnissen]" (8). Das ist in dieser Form sicherlich übertrieben, das beweist gerade die Geschichte und die Entwicklung der Linguistik im 20. Jahrhundert, zudem hat man bei gewissen Sprachen fast keine schriftlichen Belege. Im Falle der Sprachen aber, deren Geschichte im Großen und Ganzen bekannt ist, sollte man auf diese Kenntnisse eher nicht verzichten. Ich will damit nicht behaupten, dass man rein deduktive theoretische Erklärungen überhaupt nicht machen darf, da gerade die Erklärunsversuche der modernen Phonologie zeigen, dass man auch auf diese Weise gewisse Erklärungen auf die Tatsachen finden kann. Dabei halte ich aber für sehr wichtig, dass man neben diesen deduktiven Methoden auch die historischen Belege und die Ergebnisse der historischen Forschung für die

irgendein Suffix hinter dem *ß* stand (z. B. *loßá* > *loßa*), wurde das *ß* nicht zum Vokal, sondern blieb erhalten (es wurde bloß mit der Zeit aus einem bilabialen Laut zu einem dentilabialen). In Wirklichkeit wird das *-v-* also in diese Wörter nicht eingeschoben, sondern ist aus ihnen vor gewissen Suffixen nicht verschwunden.

[10] Genau wie aus dem heutigen Zustand lebendiger Organismen auf ihre frühere Entwicklungsstadien geschlossen werden kann: man denke nur auf die unterschiedlich breiten Vegetationsringe der Bäume, die zeigen, wie reich die einzelnen Jahre an Niederschlag waren.

Suche nach der Erklärung benutzt, da gerade die obigen Beispiele zeigen, dass die verschiedenen Erklärungsversuche manchmal den Wahrheitswert der anderen Theorie ergänzen und somit unterstreichen können (man denke nur auf die einander gegenseitig verstärkenden Argumente, die wir anhand der Überlegungen der im langen Vokal vor dem *-t* einen kurzen Vokal und einen Konsonanten suchenden generativen Phonologie und der historischen Belege, bzw. etymologischen Überlegungen der historischen Sprachwissenschaft gesehen haben.[11]

Daher wäre es sicherlich fruchtbringend, wenn Verteter der sog. traditionellen und der modernen Theorien manchmal auch zusammenarbeiten würden. Das würde sicherlich auch für eine methodologische Modernisierung der sog. traditionellen Linguistik sehr nützlich sein, aber sicherlich auch in der Hinsicht, dass für die Vertreter der modernen Theorien die historischen Belege und die Ergebnisse der historischen Linguistik wichtig werden, da diese auch ihrer eigenen Forschung neue Impulse geben könnten. Mit anderen Worten – Kazinczys berühmten Satz ein bisschen umgedeutet – „jól és szépen az ír, a' ki tüzes orthologus, és tüzes neologus egyszer'smind, 's egységességben és ellenkezésben van önmagával [gut und schön schreibt nur, der gleichzeitig ein feuriger Orthologe und ein feuriger Neologe ist, und der mit sich selbst ständig einen Sinnes und gleichzeitig verschiedener Ansicht ist]".

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[11] Man darf natürlich nicht verlangen, dass man die beiden Methoden **immer** miteinander kombiniert, da die Regeln der modernen Phonologie – mindestens ihrer Ambitionen nach – prediktiv sind, während die historischen Beschreibungen und Klassifikationen nach den tatsächlichen Ursachen suchen, wodurch die beiden Methoden sich nicht automatisch vermischen lassen. Wenn es nur geht, sollte man aber solche prediktiven Regeln aufstellen, die auch den historischen Tatsachen entsprechen.

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ONOMATOPÖIE IM ETYMOLOGISCHEN WÖRTERBUCH DES UNGARISCHEN (PRINZIPIEN UND METHODEN)

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Auszug

Die Einleitung oder die Benutzungshinweise zu einem Wörterbuch sind weder aufgrund ihrer Art noch aufgrund ihres Umfangs der richtige Ort, die Prinzipien und Methoden zu beschreiben, die beim Verfassen der Wörterbuchartikel als Grundlage dienten. Diese Aufgabe muss von weiteren Abhandlungen übernommen werden. Eine solche Hintergrundstudie wurde nun von einem der Autoren des ersten fremdsprachlichen etymologischen Wörterbuchs des Ungarischen vorgelegt. In ihr wird das System vorgestellt, das den Einträgen mit onomatopoetischen Bezug – unter Berücksichtigung der Charakteristika des Ungarischen als einer Sprache mit uralischer Herkunft und agglutinierender Struktur – zugrunde liegt, als Ergebnis des Austausches zwischen dem theoretisch-methodologischen Hintergrund und der praktischen Arbeit der Artikelerstellung. Ein eigenes Kapitel wird der Kennzeichnung der etymologischen Zusammenhänge gewidmet. Aus dem Aufsatz geht eindeutig hervor, dass die Herleitung und Kategorisierung von Lexemen mit onomatopoetischem Bezug sowie ihre lexikographische Widerspiegelung mit der Erwägung diverser Aspekte einhergehen muss, was Einfallsreichtum und Umsicht, Konsequenz und Flexibilität zugleich erfordert.

1. Einleitung

1.1. Es ist selbstverständlich, dass in der Geschichte der Menschheit schon immer das Bedürfnis vorhanden war, Wörter zu schaffen, die akustische Erscheinungen der Natur, der Lebewesen oder der Objekte darstellen. Auch bedarf es keiner weiteren Erklärung, dass die Sprache für diese Funktion solche Lautketten herzustellen versucht, die das gegebene akustische Phänomen möglichst treu widerspiegeln. Aufgrund dieser Motivation stehen das Bezeichnende und das Bezeichnete bei der Entstehung solcher Wörter in engem Zusammenhang miteinander. Ihre Zusammengehörigkeit ist meist auch später noch erkennbar. Um die Herkunft solcher Wörter zu erkennen, ist daher oft keine linguistische Ausbildung notwendig, es kann sogar passieren, dass jemand bestimmte lautmalerische Wörter aus für ihn (fast) unbekannten Sprachen ohne weiteres übersetzen kann. Es kommt aber – natürlich erst nach langer Zeit – auch vor, dass im semantischen Gehalt eines Wortes die konkrete Lautmalerei in den

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Hintergrund gerät, so dass die ursprüngliche Bedeutung nur durch intensives Studium der Wortgeschichte und der Etymologie festgestellt werden kann.

Die Lautgestalt eines Wortes eignet sich nicht nur zur Nachahmung von Lauten, sondern auch zur Wiedergabe von Stimmungen. Die Stimmungsmalerei ist verwandt mit der Lautmalerei, bildet aber keine so klar abgegrenzte etymologische Kategorie. Es ist allgemein bekannt, dass sich den Wörtern in Abhängigkeit von ihrer Lautgestalt bzw. von ihrer Bedeutung, jedoch vollkommen unabhängig von ihrer Herkunft, bestimmte Stimmungen anschließen können. Diese Wortstimmung gehört in den Zuständigkeitsbereich der Psychologie, der Semantik und der Stilistik. Von Stimmungsmalerei im etymologischen Sinne kann nur dann die Rede sein, wenn die Entstehung eines Wortes bzw. die Entwicklung seiner Lautgestalt mit der Zielsetzung erfolgt, eine Bewegung oder einen Zustand mittels des Verweises auf eine assoziierte Stimmung darzustellen. In diesem Sinne können Stimmungsmalerei und Lautmalerei eng miteinander verbunden sein; ja wir können sogar sagen, dass der stimmungsmalerische Ursprung in erster Linie dann als gesichert oder wahrscheinlich gilt, wenn es nachgewiesen werden kann, dass in der Ausgangsbedeutung des Wortes die Abbildung der Laut- und der Bewegungsassoziation gleichermaßen vorhanden waren. Aus alledem folgt, dass die etymologische Betrachtung der scheinbar stimmungsmalerischen Wörter besonderer Umsicht bedarf.

Die lautmalerischen und stimmungsmalerischen Wörter werden zusammenfassend onomatopoetische Elemente genannt. Auch die Interjektionen können zu dieser Gruppe gezählt werden. Denn der erste Typ dieser Wortart ahmt einfach ein akustisches Ereignis nach, eine zweite Gruppe ist aus spontanen Lautausbrüchen entstanden, die unseren Emotionen oder Launen Ausdruck verleihen sollten, der dritte Typ wiederum dient dazu, mittels Lautmalerei Tiere zu locken, sie zu treiben oder zu scheuchen.

Jemand, der sich nie mit Etymologie beschäftigt hat, könnte meinen, die Aufdeckung der Herkunft onomatopoetischer Wörter sei relativ einfach. Das Gegenteil ist der Fall. Die Ermittlung der Entstehungsumstände und der weiteren Entwicklung von onomatopoetisch anmutenden Wörtern stellt den Forscher vor zahlreiche Probleme.

1.2. Eine ähnlich schwierige Aufgabe ist die Übersetzung der Forschungsergebnisse in die Sprache der Lexikographie, d. h. die Darstellung im Wörterbuch. Die Lexikographie ist eine angewandte Wissenschaft, dementsprechend sind ihre Theorie und Methodik fast unzerlegbar miteinander verflochten. Der Arbeit an einem etymologischen Wörterbuch muss (wie bei anderen Wörterbüchern auch) vorausgehen, dass die Autoren — zumindest grob — die Richtli-

nien festlegen, denen bei der Verfassung der Wörterbuchartikel gefolgt werden soll. Andersherum kann man aber auch sagen, dass aufgrund der Vielfalt der Wörterbuchartikel sowie aufgrund des eingeschränkten Erscheinungsumfangs auch die konkrete Tätigkeit der Wörterbuchautoren einen Einfluss auf diese Richtlinien ausübt bzw. das Autorenteam ständig zu kleineren oder größeren Korrekturen zwingt. Hinzu kommt, dass das etymologische Wörterbuch — als ein philologisches Genre mit historischem Charakter — für Deduktionen nicht sonderlich günstig ist. Daher kann gesagt werden, dass in der etymologischen Lexikographie — soweit sich Theorie und Methodik doch voneinander unterscheiden lassen — die Theorie als eine Kraft mit eigenen Gesetzen nicht in den Vordergrund tritt, vielmehr wird ihre Rolle von der Methodik übernommen, die einen engeren Bezug zu konkreten Lösungen hat.

Die Einleitung oder die Benutzungshinweise zu einem Wörterbuch sind weder aufgrund ihres Zwecks noch aufgrund ihres Umfangs der geeignete Ort, Prinzipien und Methodik der Erstellung der Wörterbuchartikel ausführlich zu beschreiben. Diese Aufgabe muss von gesonderten Abhandlungen, evtl. von ganzen Sammelbänden übernommen werden. In der ungarischen Fachliteratur ist die wichtigste derartige Sammlung von László Országh herausgegeben worden (1966). Unter den dort veröffentlichten Arbeiten sei wegen ihrer etymologisch-lexikalischen Fragestellung die Aufmerksamkeit besonders auf den Beitrag von Géza Bárczi gelenkt (1966, 9–28).

Die vorliegende Analyse ist als Hintergrundstudie zum ersten ungarischen fremdsprachigen etymologischen Wörterbuch, zum EWUng. gedacht (auf das Wörterbuch selbst wird in Kapitel **2.** eingegangen). Sie beabsichtigt nicht, irgendeine theoretische Zusammenfassung von der Onomatopöie selbst oder von der etymologischen Lexikographie zu geben, ihr Ziel ist vielmehr, das System vorzustellen, in das sich die onomatopoetischen Elemente im Wörterbuch geordnet haben, als Ergebnis des Zusammenwirkens des theoretisch-methodologischen Hintergrunds und der praktischen Arbeit der Artikelverfassung. Gerade weil ich mich hier und jetzt auf die Darstellung des Systems im EWUng. beschränken möchte, um eine Grundlage für spätere komparative Analysen zu schaffen, halte ich es für zweckmäßig, die internationale Fachliteratur bezüglich der Onomatopöie bzw. der Lexikographie erst in einer späteren Abhandlung in die Untersuchung einzubeziehen. Dies wäre in der Zukunft um so wichtiger, weil so das Ungarische als eine uralische und eine agglutinierende Sprache mit Vertretern anderer Sprachfamilien bzw. Sprachtypen hinsichtlich der Onomatopöie bzw. ihrer lexikographischen Spiegelung verglichen werden kann. Ebenso nützlich erscheint natürlich der Vergleich mit anderen uralischen bzw. agglutinierenden Sprachen.

2. Das TESz., das EWUng. und die onomatopoetischen Elemente

2.1. Die drei Bände des *Historisch-etymologischen Wörterbuches der ungarischen Sprache* (A magyar nyelv történeti-etimológiai szótára = TESz.) sind 1967, 1970 und 1976 erschienen, das ergänzende Verzeichnis folgte 1984. Die Teamarbeit unter der Leitung von Loránd Benkő fasste die Teilergebnisse der bisherigen etymologischen Forschung zusammen, zugleich unterwarf sie diese einer kritischen Untersuchung, sie bereicherte die Forschung aber auch um zahlreiche neue Worterklärungen.

Die Synthese fand sowohl in Ungarn als auch unter den hungarologisch interessierten ausländischen Linguisten einen positiven Anklang. Es erschien immer wichtiger und dringender, das Wörterbuch auch in einer Weltsprache herauszugeben, um den Zugang zu ihm zu erleichtern. Da in Ungarn die wortgeschichtlichen und etymologischen Forschungen natürlich auch parallel zur Erstellung des TESz. weiterliefen und nach der Herausgabe des Wörterbuches gerade durch seine befruchtende Wirkung neu in Schwung gerieten, schien es zweckmäßiger, anstatt einer (vollständigen oder auszugsweisen) Übersetzung des TESz. ein neues ungarisches etymologisches Wörterbuch in deutscher Sprache anzufertigen. So ist aus der über ein Jahrzehnt umfassenden Arbeit einer Gemeinschaft das *Etymologische Wörterbuch des Ungarischen* (= EWUng.) entstanden. Das Wörterbuch ist in sechs Lieferungen erschienen. Die zwei Bände (1993; 1995) umfassen je drei Lieferungen. Das EWUng. wurde 1997 mit dem Erscheinen des Registerbandes vollständig.

An der Spitze des EWUng.-Arbeitsteams stand Loránd Benkő. Neben ihm hatten auch weitere Mitarbeiter als Verfasser von Wörterbuchartikeln oder als wissenschaftlich-technische Mitarbeiter an der Erstellung des TESz. teilgenommen. Die Hälfte der Autoren des EWUng. galt jedoch (in dieser Hinsicht) als „Neuling". Zu ihnen gehörte ich auch. Meine Aufgabe bestand in der Erarbeitung der Wörterbuchartikel zu den slawischen Lehnwörter und zu den onomatopoetischen Lemmata.

2.2. Eine Vielzahl von kleineren oder gewichtigeren Aufsätzen widmet sich den Problemen der onomatopoetischen Wörter des Ungarischen. Ihre Ergebnisse wurden (z. T. durch die Vermittlung des TESz.) natürlich auch im EWUng. verwertet, wobei das Gewicht verständlicherweise vor allem auf diejenigen Beiträge gelegt wurde, die erst nach der Herausgabe des TESz. erschienen sind. Diese Veröffentlichungen spielten in der Erläuterung der Herkunft bestimmter Wörter eine entscheidende Rolle, als prinzipieller und methodologischer Hintergrund, um die onomatopoetischen Artikel im EWUng. einheitlich und

konsequent, zugleich aber ausreichend nach Untertypen differenziert zu erarbeiten, reichten sie jedoch nicht aus.

Im TESz. wurde versucht, die Wörterbuchartikel zu denjenigen Lemmata, die als onomatopoetisch bewertet oder auf eine oder andere Weise damit in Zusammenhang gebracht wurden, einerseits immer mit Berücksichtigung der Charakteristika des jeweiligen Wortes bzw. der jeweiligen Wortfamilie zu erstellen, andererseits ist eine starke Anlehnung — auch wenn nicht immer ganz konsequent durchgeführt — an das einschlägige Kapitel im Universitätslehrbuch zur Sprachgeschichte zu spüren, das in dem Jahr der Veröffentlichung des ersten TESz.-Bandes erschienen ist (Benkő 1967, 307–16).

Die Lage des EWUng. war insofern auf jeden Fall einfacher, dass ihm das TESz. in vollem Umfang als Quelle zur Verfügung stand, ergänzt um all die Erfahrungen, die der Leiter der Arbeitsgruppe und einige der Mitarbeiter gesammelt hatten. Andererseits erwies sich gerade dieser Umstand manchmal als hindernd, denn die künftigen Benutzer des neuen etymologischen Wörterbuches erwarteten ja mit recht, dass im EWUng. die Ungenauigkeiten und Widersprüche des TESz. korrigiert bzw. aufgelöst werden.

Die Bestrebung, für die Artikel zu den onomatopoetischen (und verwandten) Elementen neue theoretisch-methodologische Grundlagen zu schaffen, wurde gleichzeitig möglich und notwendig durch das 1984 erschienene Buch Loránd Benkős, das den Titel *A magyar fiktív (passzív) tövű igék* [Ungarische Verben mit fiktivem (passivem) Stamm] trug. (Auf die Bedeutung des Ausdrucks „fiktiver Stamm" werden wir unter **3.3.2.3.** näher eingehen.) Das Erscheinungsjahr verrät, dass wir auf dieses Werk bei den Arbeiten am EWUng. nahezu von Anfang an zugreifen konnten. Obwohl für unser Thema natürlich das Kapitel über die onomatopoetischen Verben (Benkő 1984, 48–60) am relevantesten war, muss betont werden, dass nicht nur dieses Kapitel, sondern das Buch insgesamt eine unentbehrliche Hilfe bei der prinzipiellen Kategorisierung der Wörter und bei der Lösung der konkreten Aufgaben der Artikelgestaltung war. (An dieser Stelle möchte ich kurz erwähnen, dass die Probleme der fiktiven Stämme einen weitaus größeren Kreis des Wortschatzes als die onomatopoetischen Einheiten betreffen, so dass von der Analyse Benkős mehrere Verfasser des Wörterbuches profitieren konnten.)

3. Aspekte der Kategorisierung

3.1. Die Artikel des EWUng. bestehen aus drei größeren Einheiten: 1. Geschichte des Wortes; 2. Etymologie; 3. Bibliographie. Im ersten Teil sind die Formvarianten und Bedeutungen des Wortes chronologisch aufgezählt (in einigen Fällen ergänzt um einige Ableitungen, evtl. um weitere Angaben). Der dritte Abschnitt beschränkt sich auf die wichtigsten Literaturangaben zum aktuellen Wörterbuchartikel. Für unsere Fragestellung ist der zweite, etymologische Abschnitt der wichtigste. Er beginnt in jedem Artikel mit einem „Einleitungssatz", der die wichtigsten Aussagen über die Herkunft des Wortes kurz zusammenfasst, die Fortsetzung hängt von der jeweiligen Ursprungskategorie ab. (Der Einleitungssatz wird mit dem Zeichen ⊗ abgeschlossen.)

M. E. ist es durch diese wenigen Informationen ausreichend begründet, wenn ich mich im Folgenden vorwiegend auf die Einleitungssätze konzentrieren werde. Der Abschnitt über die Wortgeschichte bzw. die etymologische Erklärung im Anschluss an den Einleitungssatz werden nur dann erwähnt, wenn es aus einem bestimmten Grund notwendig erscheint. — Die Abkürzungen des EWUng. werden hier in den zitierten Einleitungssätzen und sonstigen Beispielen aufgelöst, aber der „Telegrammstil" des Wörterbuches wird auch im vorliegenden Beitrag meist beibehalten. Es finden nur die wichtigeren Bedeutungen Erwähnung. Um die Identifikation zu erleichtern, werden auch die Indexzahlen der Lemmata (z. B. *csap*[1], *dob*[2]) angegeben.

3.2. Die Bezeichnung „onomatopoetisch" wird im EWUng. (ähnlich seinem Vorgänger, dem TESz.) in den Einleitungssätzen oder im Anschluss an sie nur dann verwendet, wenn das Lemma als intern entstandenes Wort betrachtet wird. Der Ausdruck „intern entstandenes Wort" bedeutet nicht nur, dass das Wort nicht aus einer anderen Sprache übernommen worden ist, sondern auch, dass das Wort erst in der eigenständigen Periode des Ungarischen entstanden ist, also keine Erbschaft aus der uralischen/finnougrischen/ugrischen Protosprache ist.

3.2.1. Das Verb *pancsol* 'panschen, verwässern; im Wasser plätschern' stammt aus dem Deutschen (bzw. dem Bairisch-österreichischem). Zwar ist dieses Wort im Deutschen onomatopoetischer Herkunft, aber dies ist eine „innere Angelegenheit" der deutschen Sprache, was durch die (nicht betonte) Position dieser Information im Artikel ausgedrückt wird. — Das Verb *hahotál* 'laut lachen' ist aus einer slawischen Sprache übernommen worden. Im Einleitungssatz wird selbstverständlich nur dies erwähnt, da der onomatopoetische Charakter des slawischen Verbs nicht hervorgehoben werden kann.

3.2.2. Etwas näher zu den intern entwickelten Elementen stehen die Wörter wie *csap*[1] 'schlagen, hauen' und *fúj* 'blasen', die ebenfalls onomatopoetischer Natur sind. Charakteristisch für sie ist, dass sie sicher oder wahrscheinlich aus der uralischen, finnougrischen oder ugrischen Protosprache ins Ungarische gekommen sind. Im EWUng. wurde dieser Umstand, d. h. die Abgrenzung von den intern entstandenen Lexemen wichtiger eingestuft, als die erkennbare Onomatopöie, daher enthält der Einleitungssatz die Bezeichnung „Erbwort". Die Tatsache, dass das Lexem zugleich onomatopoetischen Charakters ist, wird an einer späteren, nicht betonten Stelle des Artikels verraten.

In einem gewissen Zusammenhang, zugleich aber in Opposition mit dem gerade erwähnten Typ stehen Lexeme wie *rop* 'treten, steigen; (einen Tanz) leidenschaftlich tanzen', *szív*[1] '(ein)saugen; einatmen', deren Entsprechungen auch in den verwandten Sprachen vorzufinden sind. Dieser Typ wird im Wörterbuch im Einleitungssatz als „Onomatopoetisch" bezeichnet, da hier hinsichtlich der Herkunft Sicherheit besteht. In diesen Fällen werden die Angaben aus den verwandten Sprachen in einer Erläuterung plaziert, ergänzt durch Formulierungen wie: „Der etymologische Zusammenhang von diesen mit dem ungarischen Wort ist nicht auszuschließen, wegen der onomatopoetischen Natur und einiger phonetischen Schwierigkeiten ist er aber nicht zu beweisen".

3.3. In Bezug auf die Onomatopöie sind die Einleitungssätze in erster Linie durch die Antworten auf folgende Fragen geprägt: 1. Wird im Artikel die Herkunft eines einzigen Wortes oder einer Wortfamilie behandelt? 2. Wie sind das Wort oder die Mitglieder der Wortfamilie morphologisch aufgebaut? 3. Um welche Wortart/en handelt es sich? 4. Wie wahrscheinlich ist die Richtigkeit der Erklärung?

3.3.1. Im Normalfall finden wir in einem Wörterbuchartikel des EWUng. natürlich Angaben zur Geschichte und Herkunft eines einzigen Wortes. Wird es aber durch den gemeinsamen Stamm oder den (verhältnismäßig) leicht erkennbaren semantischen Zusammenhang zweier oder mehrerer Lexeme möglich oder gar wünschenswert, sie an derselben Stelle zu behandeln, so können in einem Wörterbuchartikel die Geschichten mehrerer Lexeme nacheinander erläutert werden, so dass im etymologischen Abschnitt des Artikels über die Mitglieder der sog. Wortfamilie und deren Verhältnis zueinander zusammen berichtet wird. Die Reihenfolge innerhalb der Wortgeschichte wird im EWUng. durch die Chronologie der Belegbarkeit bestimmt. Das Lexem an der ersten Stelle wird Hauptlemma, die anderen Sublemma(ta) genannt. Diese Bezeichnungen spiegeln also die Position innerhalb des Artikels wider, sie bedeuten aber keinesfalls

eine etymologische Rangfolge (Vorrang, Wichtigkeit). Es kann also auch vorkommen, dass bei der Entstehung einer Wortfamilie nicht das Haupt-, sondern eines der Sublemmata als Ausgangspunkt der Wortfamilie diente.

Die Bezeichnung „Wortfamilie" wird im EWUng. stets nur für den oben vorgestellten Artikeltyp (mit Sublemmata) verwendet. Wir werden sehen, dass im Wörterbuch auf die etymologischen Zusammenhänge solcher Lemmata, die in unterschiedlichen Artikeln herausgearbeitet wurden, anders verwiesen wird.

Unter den Mitgliedern einer Wortfamilie kann — um es durch eine Metapher auszudrücken — das Verhältnis Bruder : Bruder oder Vater : Sohn gleichermaßen vorkommen, bei mehreren Familienmitgliedern können innerhalb der Wortfamilie auch beide Verhältnistypen vorhanden sein.

Für all dies und für die Formulierung der Einleitungssätze in den Wortfamilienartikeln werden später, im Anschluss an die Vorstellung der „einsamen" Lexeme, entsprechende Beispiele genannt.

3.3.2. Die etymologische Qualifizierung ist maßgeblich durch die morphologische Struktur des jeweiligen Lexems (oder Lexeme, wenn es sich um eine Wortfamilie handelt) beeinflusst. Zwar wird dieser Gesichtspunkt bei der Untersuchung der onomatopoetischen Elemente bereits im TESz. berücksichtigt, unserer Ansicht nach war für das EWUng. jedoch ein differenzierteres und konsequenteres System notwendig. Demnach mussten wir sowohl auf eine deutlichere Abgrenzung der Untertypen als auch auf die identische Qualifizierung der Wörter innerhalb eines Untertyps achten.

3.3.2.1. In der ungarischen etymologischen Tradition wird immer das Moment der unmittelbaren Übernahme hervorgehoben, also die Rolle der Sprache, aus der das Wort ins Ungarische entliehen wurde. Natürlich versucht das EWUng. die wichtigsten Stationen des jeweiligen Lexems — in Zeit und Raum — zurückzuverfolgen, nach Möglichkeit sogar bis zur sog. Endquelle. Dies ändert aber nichts daran, dass im Einleitungssatz ausschließlich die Entlehnungssprache als Quelle genannt wird.

Das System der etymologischen Qualifizierung (vgl. Benkő 1994, 385–92) sollte im EWUng. nach unserem Bestreben so beschaffen sein, dass in ihm — nach Möglichkeit und trotz der zahlreichen Unterschiede — die Kategorisierungsprinzipien der großen Herkunftskategorien aufeinander abgestimmt sind. Daher erschien es auf jeden Fall sinnvoll, ähnlich den Lehnwörtern auch die Qualifizierung der intern entstandenen Wörter nach dem unmittelbaren Moment der Entstehung zu richten. Wenn dieses Moment z. B. eine Ableitung, ein Wortartwechsel oder eine Spaltung war, so wurde im Einleitungssatz diese

Tatsache hervorgehoben, die eher oder weniger wahrscheinliche onomatopoetische Herkunft des Stammes wurde hingegen nur als sekundäre Information mitgeteilt.

3.3.2.2. Was die (oftmals nur durch historische Analyse nachweisbare) morphologische Struktur eines ungarischen Lexems betrifft, kann es aus einem einzigen Stamm, oder aus der Verbindung von Stamm und Ableitungssuffix (sog. Bildungssuffix) bestehen. Durch eine Formel ausgedrückt: (1) St. oder (2) St. + BSf. Es kann auch vorkommen, dass die Einheit Stamm + Bildungssuffix durch ein weiteres Bildungssuffix ergänzt wird, also (3) (St. + BSf.) + BSf. Die durch Klammern abgegrenzte Einheit wird als relativer Stamm bezeichnet. Wird er um das Derivationselement reduziert, erhalten wird den absoluten Stamm.

3.3.2.3. Unter **2.2.** wurde bereits erwähnt, dass für das EWUng. Loránd Benkős Werk (1984) über die ungarischen Verben mit fiktivem Stamm eine grundlegende Rolle gespielt hat. Was aber bedeutet der Ausdruck „fiktiver Stamm"? Nach Benkő sind das „alle Verben, die ein Derivationssuffix (eventuell ein nur durch historische Analysen nachweisbares Derivationssuffix) beinhalten, deren Stamm aber in unserer Sprache kein eigenständiges Lexem mehr ist bzw. zu einem bestimmten Zeitpunkt — nach unseren Belegen — nicht war" (1984, 5). Der Ausdruck *fiktiv* wird bei Benkő nicht im Sinne „erfunden, nicht existent", sondern „nicht direkt erkennbar, nicht echt" (1984, 22) benutzt.

Verben mit fiktivem Stamm machen eine sehr große Gruppe der ungarischen Verben aus. Das gilt nicht nur für den heutigen Sprachzustand, sondern für alle durch Sprachbelege dokumentierbaren Epochen, und vermutlich sogar für die zweite Hälfte der ur-ungarischen Epoche, aus der uns keine sprachlichen Belege zur Verfügung stehen. (Das eigenständige Leben der ungarischen Sprache begann in der Zeit zwischen 1000–500 v. Ch. mit der Ausscheidung aus der ugrischen Gruppe, der Endpunkt des Ur-Ungarischen wird traditionell mit der Landnahme von 895–896 n. Ch. gleichgesetzt.)

Das Werk Benkős (1984, 88–150) bietet eine gründliche Analyse über den Entstehungsprozess der verschiedenen Verbgruppen mit fiktivem Stamm. Der Prozess hat (indirekt) bereits vor der ur-ungarischen Epoche eingesetzt, da die Aktionsart immer häufiger durch ein an den Verbstamm angehängtes Suffix ausgedrückt wurde. Die so entstandenen Ableitungen resultieren also aus einer echten Derivation, die häufig bis in den heutigen Tag parallel zu ihrem Grundwort, also dem Stammverb weitergelebt haben. Die Entstehungszeit der Ableitungen aus der belegiosen Epoche kann natürlich nicht festgestellt werden, aber die relativ frühen Belege in den Sprachdenkmälern zeigen überzeugend, dass

das Ungarische über eine beachtliche Zahl von Ableitungen aus solchen Verbstämmen verfügt, die sicher oder wahrscheinlich aus der Protosprache geerbt wurden. Als Beispiel seien hier lediglich einige Ableitungen aus dem Stammverb *csap*[1] in der Bedeutung 'schlagen, hauen usw.' aufgezählt, insbesondere solche Formen, die heute Bestandteil der Standardsprache sind oder früher frequent waren: *csapat* 'schlagen lassen', *csapdos* '(um sich herum)schlagen', *csapkod* 'ds.', *csapod* 'ds.', *csapódik* 'an etwas (an)schlagen, auf etwas aufprallen', *csapong* 'herumschweifen; flattern; lumpen; (herum)schlagen', *csappan* 'an etwas anprallen; abmagern, abnehmen'.

Mit der Zunahme der Ableitungen wurde die „Abgeleitetheit" für das Verb als Wortklasse immer mehr charakteristisch. Im Zusammenhang damit muss sich der Anteil der Stammverben im Gesamtbestand der Verben während der ur-ungarischen Epoche ständig reduziert haben. Diese Tendenz hatte zur Folge, dass viele Stammverben an die Peripherie gedrängt wurden oder ausstarben, während andere Verbstämme aufgrund von Veränderungen in Lautgestalt oder Bedeutung den Bezug zu ihren Ableitungen verloren. Dadurch wurden die weiterhin existierenden, ehemals durch echte Derivation entstandenen Ableitungen im synchronen Sprachbewusstsein zu Verben mit fiktivem Stamm umgewertet. In etymologischem Sinne können diese Lexeme natürlich nicht als Verben mit fiktivem Stamm bezeichnet werden. — Das Verb *lehel* 'hauchen, atmen' z. B. scheint heute einen fiktiven Stamm zu haben, in Wirklichkeit wurde es aber aus einem onomatopoetischen Stammverb, das in den Sprachdenkmälern belegt ist und in der gleichen Bedeutung verwendet wurde, aus *leh* abgeleitet. Seit dem Aussterben von *leh* erscheint *lehel* als Verb mit fiktivem Stamm. — Zwar lebt das Stammverb *top* 'drucken; treten' in einigen Dialekten bis heute weiter, seine standardsprachliche Ableitung *tapos* '(zer)treten, stampfen' hat sich aber aufgrund des Unterschieds in Sprachschicht und Lautgestalt von ihm entfernt. Aus etymologischer Hinsicht ist *tapos* durch echte Derivation entstanden, in der heutigen Standardsprache fügt er sich jedoch in die Reihe der Verben mit fiktivem Stamm ein. — Sowohl *kap* '(er)greifen; bekommen, erreichen', als auch *kapar* 'erhaschen; kratzen; scharren' sind in der heutigen Standardsprache häufig vertreten. Wegen der abweichenden Bedeutung wird der durchschnittliche Sprecher des Ungarischen das Verb *kapar* jedoch kaum als Ableitung von *kap* wahrnehmen. Trotz seiner Herkunft kann *kapar* in dem heutigen morphologischen System also als Verb mit fiktivem Stamm bezeichnet werden.

Die steigende Zahl abgeleiteter Verben und die abnehmende Zahl der Stammverben brachte jedoch auch andere Konsequenzen mit sich. Da für die Sprache zunehmend die abgeleitete Verbstruktur charakteristisch wurde, wurde es durch Analogie möglich, dass ganz neue Verben als eine Einheit aus Stamm

und Ableitungssuffix, ohne ein tatsächlich vorangehendes Stammverb in der Sprache erscheinen. In diesen Fällen hat das Verb auch aus etymologischem Gesichtspunkt einen fiktiven Stamm.

Es war offensichtlich schon im Ur-Ungarischen möglich, dass einzelne Lehnwörter als eine Verbindung von einem fiktiven Stamm und einem sog. „einungarisierenden" Ableitungssuffix in das System der ungarischen Verben übernommen werden; später wurde dies zur ausschließlichen Methode der Übernahme von Verben. (In der Einungarisierung kam die größte Rolle den Suffixen *-l* und *-ál* zu.) – Ebenso können bereits vor den sprachlich belegten Epochen solche onomatopoetischen Verben entstanden sein, die von Anfang an die Struktur „fiktiver Stamm + Ableitungssuffix" hatten, während es in der späteren und heutigen Zeit (fast) gesetzmäßig wurde, dass ein neues onomatopoetisches Verb gleich mit dieser Struktur in der Sprache erscheint. Einige Beispiele von Verben, die höchstwahrscheinlich bereits bei ihrer Entstehung diese Struktur hatten: *csacsog* 'schwatzen; zwitschern', *hápog* 'schnattern ⟨Ente⟩; um Atem ringen; stottern', *rohan* 'rennen, eilen'.

Die einstigen Stammverben leben (nunmehr als fiktive Stämme) selbstverständlich nicht nur in den aus ihnen abgeleiteten Verben, sondern in deverbalen Nomina und (später konvertierten) Partizipien weiter. So wurde z. B. das ausgestorbene *lább* 'schwimmen; fließen; schweben usw.' (neben der standardsprachlichen Verbalableitung *lábadozik* 'auf dem Wege der Erholung sein') im heute dialektal vorhandenen *lábbó* 'Floß; feste Moorstelle' konserviert. – Analog zu den Verben, die bereits von ihrer Entstehung an einen fiktiven Stamm beinhalteten, können sich aus als Lexem nie existierenden Verbalstämmen auch Nomina und konvertierende Partizipien gebildet haben. Es ist beispielsweise sehr wohl möglich, dass die einzelnen Glieder des onomatopoetischen Zwillingswortes *csetepaté* 'Volksauflauf; Schlägerei, Scharmützel' auch ohne die vorangehenden Stammverben **cset* bzw. **pat* zustande kommen konnten.

Da es oft nicht möglich ist, zwischen fiktiv gewordenen und von vornherein fiktiven Stämmen aus der Entfernung von mehreren hundert Jahren zuverlässig zu unterscheiden, werden im EWUng. alle Stämme als fiktiv bezeichnet, wenn sie als eigenständiges Lexem nicht belegt werden können.

Nicht nur Stammverben, sondern auch abgeleitete Verben können als eigenständige Lexeme ausgestorben, aber in einigen ihrer Ableitungen weiterhin erhalten geblieben sein. In solchen Fällen spricht man von relativen fiktiven Stämmen, im etymologischen Sinne aber nur dann, wenn das ehemalige Grundwort nicht belegt ist. Die Ableitungen *buborék* 'Luftblase', *csatara* 'Gelächter, Lärm; schnatterig' können beispielsweise auf Verben mit dem Suffix *-r* (**bubor*, **csatar*) zurückgeführt werden.

3.3.3. Im Einleitungssatz kommt der Wortart im Zusammenhang mit der morphologischen Struktur des jeweiligen Lexems (in Wortfamilien der jeweiligen Lexeme) eine Bedeutung zu. Aus Abschnitt **3.3.2.3.** wird deutlich, dass im Ungarischen aus fiktiven Stämmen sowohl Verben als auch Nomina entstanden sein können. Während jedoch zu den Verben von ihrer Geburt an seit längerer Zeit obligatorisch auch ein Suffix gehört, besteht bei den Nomina kein solcher Zwang. Wie bereits erwähnt, sollte in den Einleitungssätzen der Wörterbuchartikel des EWUng. das unmittelbare Entstehungsmoment des jeweiligen Lexems hervorgehoben werden: im Falle der abgeleiteten Nomina war dieses Moment identisch mit dem Ableitungsvorgang, während die Frage nach der Herkunft des Grundworts oder des fiktiven Stamms sekundär bleibt. Im Falle der substantivierten Partizipien wurde hingegen der Wortartwechsel betont.

Für Interjektionen ist es charakteristisch, dass sie aus einem einzigen Morphem bestehen, so dass diese Wortklasse durch die Problematik der fiktiven Stämme höchstens indirekt betroffen ist.

3.3.4. Die Formulierung des Einleitungssatzes hängt stark vom Wahrscheinlichkeitsgrad der Etymologie ab. Gilt die Erklärung als sicher, so wird dies nicht explizit angegeben. Auf die Unsicherheit wird natürlich explizit hingewiesen, aber nicht unbedingt im Einleitungssatz, da es ja nicht unwesentlich ist, auf welches Detail der Etymologie sich unser Zweifel bezieht. Wir verschweigen es auch nicht, wenn die Erklärung „lediglich" wahrscheinlich ist; in solchen Fällen steht die Bearbeitungsweise des Artikels im EWUng., entsprechend der ungarischen Tradition, näher der der sicheren Etymologien, als der der unsicheren.

4. Zum System der Einleitungssätze

Bei der Vorstellung des Systems der Einleitungssätze kann ich keine Vollständigkeit anstreben, da die bisher erläuterten Aspekte zahlreiche Kombinationen möglich oder notwendig gemacht haben. Daher begnüge ich mich mit einer Schau der wichtigsten Typen, obwohl ich auch einige seltene, aber m. E. interessante Fälle einbeziehen werde.

4.1. Als Erstes werde ich die Einleitungssätze der Artikel ohne Sublemmata behandeln. Natürlich bedeutet die „Partnerlosigkeit" des Lexems nicht unbedingt eine „Verwandtenlosigkeit", da ja mit Lexemen anderer Artikel sogar eine Vielzahl von Zusammenhängen bestehen kann.

Aus dem in Kapitel **3.** Gesagten wird deutlich, dass sich zur Systematisierung am meisten die morphologische Klassifizierung eignet.

4.1.1. Wenn das Lexem kein Ableitungssuffix beinhaltet, so lautet der typische Einleitungssatz natürlich „Onomatopoetisch".

(a) Die Wortklasse, die typischerweise aus einem einzigen Morphem besteht, sind die Interjektionen.

Ein Teil ihrer Repräsentanten dient einfach der Lautnachahmung, es ist also kein Zufall, dass Interjektionen mit ähnlicher Lautgestalt und Funktion auch in anderen Sprachen vorkommen: *hamm* ⟨zum Ausdruck des plötzlichen Einverleibens von etwas Essbarem⟩, *hapci* ⟨zur Nachahmung des Niesens⟩, *iá* ⟨zur Nachahmung des Eselgeschreies⟩.

Eine andere Gruppe der Interjektionen hat sich aus solchen spontanen Lautausbrüchen gebildet, die durch unterschiedliche äußere Eindrücke (z. B. Schmerz, Kälte) oder Emotionen ausgelöst wurden. Wörter, die zu dieser Gruppe gehören, haben häufig eine sehr eingeengte Bedeutung: *brr* ⟨zum Ausdruck vom Frösteln und Ekel⟩, *fuj* ⟨zum Ausdruck von Ekel, Abscheu, Verachtung⟩; auch hier ist es sehr charakteristisch, dass in anderen Sprachen ähnliche Lexeme vorkommen. In anderen Fällen ist die Funktion weiter ausgedehnt: die Interjektion *jaj* (die sich in der Bedeutung 'Wehgeschrei, Wehklagen' auch substantiviert hat) kann nicht nur physischen und seelischen Schmerz ausdrücken, sondern auch andere starke Emotionen, unter anderem sogar mit Überraschung gemischte Freude.

Interjektionen, die dem Locken, Treiben oder Scheuchen von Tieren dienen, können ihre Funktion dank ihres Klangs ausüben: *cic* ⟨Lockruf für Katzen⟩, *gyí* 'vorwärts' ⟨als Zuruf an die Pferde⟩, *hess* ⟨als Scheuchruf für Geflügel⟩. Die lockende und die scheuchende Funktion sind einander entgegengesetzt, aber es gibt auch Beispiele für ihre Verschmelzung: *co* ⟨Lockruf und Treibewort für Pferde, Hunde, usw.⟩; hier eignen sich Stimmklang oder Intonation zur Unterscheidung der Funktionen.

Einige Interjektionen werden sowohl zum Ausdruck des eigenen Willens als auch zum Ausdruck von Emotionen verwendet. So z. B. *haj*^{2} ⟨Aufmerksammachen, Viehtreiben bzw. zum Ausdruck der Freude, des Bedauerns⟩.

Im Zusammenhang mit den Interjektionen seien auch die Steigerungspartikel *be*^{2} und *de*^{2} in der Bedeutung 'wie sehr' erwähnt. Sie sind als Interjektionen entstanden (vermutlich zum Ausdruck der Verwunderung, Überraschung), aber ihre ursprüngliche Wortklasse kann nicht belegt werden. Es ist schwer zu entscheiden, ob in ihrem Fall die im Wörterbuch verwendete „Onomatopoetisch", oder „Wortartwechsel einer Interjektion" die bessere Qualifizierung wäre.

(b) Anhand dessen, was (unter **3.3.2.**) über die Geschichte des morphologischen Aufbaus der ungarischen Verben gesagt wurde, ist es leicht verständlich, dass zur Kategorie „Onomatopoetisch" nur wenige Stammverben gehören. Sol-

che sind u. a. *csesz* 'leicht berühren, kratzen; koitieren; [*el*~] verpfuschen', *nyí* 'winseln', *csúszik* '(aus)rutschen, gleiten; kriechen; etwas schmeckt (gut)' (letzteres war bis zum 19. Jh. ohne das Konjugationssuffix *-ik* gebräuchlich).

(c) Die dynamische Natur der Onomatopöie ist für die Nomina nicht sonderlich günstig. Die trotzdem bestehenden wenigen Stammnomina erhalten (ähnlich den Stammverben) die Bezeichnung „Onomatopoetisch". Es ist nicht verwunderlich, dass dies vor allem auf Vogelnamen zutrifft, da sich Vögel oftmals gerade durch ihre Stimme charakterisieren lassen. So entstanden: *bíbic* 'Kiebitz', *guvat* 'Wasserralle', *pinty* 'Fink'. Es ist auch nicht verwunderlich, dass diese Vögel oder ihre nahen Verwandten auch in anderen Sprachen eine, der ungarischen Lautgestalt ähnliche, onomatopoetische Bezeichnung haben: englisch *peewit*, russisch *чибис*: 'Kiebitz'; estnisch *vutt* 'Sumpfhühnchen'; deutsch *Fink*, englisch *finch* 'Fink'. — In Ausnahmefällen können auch andere Stammnomina die Bezeichnung „Onomatopoetisch" erhalten: *pipacs* 'Klatschrose'.

(d) Die Tatsache, dass die Interjektionen durch Onomatopöie erklärt werden, verursacht wegen des Charakters dieser Wortart normalerweise keine Schwierigkeiten. Unter den onomatopoetischen Verben wiederum kommen Verben ohne Derivationssuffix so selten vor, dass eine solche Erklärung gar nicht erst in Frage käme, wenn sie nicht fast sicher erscheinen würde. Dennoch gibt es einige Beispiele für die Qualifizierung „Wahrscheinlich onomatopoetisch" bei den Stammverben: *kap* '(er)greifen; bekommen, erreichen', *kopik* 'abgenutzt werden, sich abwetzen'.

Bei den Stammnomina kann es schon eher vorkommen, dass eine onomatopoetische Erklärung kleinere oder größere (phonologische, morphologische oder semantische) Schwächen vorweist. — Beispielsweise erhalten *csík*[1] 'Schlammbeißer; Nudel' und *dob*[2] 'Trommel' die Einleitungssätze „Wahrscheinlich onomatopoetisch". Im ersten Fall werden wir wegen der im Rahmen der Onomatopöie ungewöhnlichen (obwohl durch fremdsprachige Beispiele unterstützten) Bedeutung, im zweiten Fall wegen einer eventuell heranzuziehenden zweiten Erklärung zur Vorsicht gemahnt. — Wenn der Verdacht der Onomatopöie besteht, aber die Schwierigkeiten schwerwiegender sind, erhält das Stammnomen den Einleitungssatz „Unbestimmten Ursprungs, eventuell onomatopoetisch": *cucc* 'Kram, Siebensachen', *kacs* 'Haken; (Wein)ranke'.

4.1.2. Bei den Lemmata mit Ableitungssuffix ist eine Schlüsselfrage, ob ihr Stamm mit (mehr oder weniger wahrscheinlicher) onomatopoetischer Herkunft als eigenständiges Lexem belegt werden kann, oder ob es sich um einen fiktiven Stamm handelt.

4.1.2.1. Ein Lexem, das auch eigenständig belegt ist und aus dem durch Suffigierung ein neues Wort entstanden ist, wird Grundwort genannt. Den Lemmata mit der Entstehungsweise „Grundwort + Ableitungssuffix" wird der Einleitungssatz „Ableitung" zugeordnet. Diese Qualifizierung wird durch den Ursprung des Grundwortes nicht beeinflusst, aber uns interessieren hier natürlich nur Grundwörter mit onomatopoetischem Bezug. -- Hier muss bemerkt werden, dass die Mehrheit der Ableitungen, die aus echten Grundwörtern gebildet sind, sowohl im TESz. als auch im EWUng. (unabhängig von der Ursprungskategorie) in den Artikel des Grundwortes, genauer in dessen wortgeschichtlichen Abschnitt aufgenommen wurden. In den beiden etymologischen Wörterbüchern werden Ableitungen relativ selten, nur in (durch chronologische, morphologische, semantische, lexikologische usw. Argumente) begründeten Fällen als eigenständiges Lemma aufgenommen.

Im Falle einer Ableitung, die als Lemma aufgenommen wurde, geht die Herkunft des Grundwortes aus dem Artikel der Ableitung normalerweise nicht direkt hervor. Wenn das Grundwort im EWUng. nämlich ebenfalls lemmatisiert ist, genügt es, im Artikel der Ableitung durch einen Pfeil auf das Grundwort zu verweisen, bei dem der Leser Informationen über die Herkunft des Grundwortes findet.

(a) Eine charakteristische Gruppe der Ableitungen mit onomatopoetischem Grundwort sind die deinterjektionalen Substantive. Solche sind z. B. *cica* 'Katze, Kätzchen' (aus →*cic* ⟨Lockruf für Katzen⟩), *héja* 'Habicht' (aus der Interjektion →*hej*, die auch als Scheuchruf fungiert). -- Es ist allgemein bekannt, dass die Interjektionen, die als Lock- oder Scheuchrufe fungieren, nur schwer in die geschriebene Sprache gelangen. Es ist also nicht verwunderlich, dass das Grundwort der Tierbezeichnungen, die ein Diminutivsuffix enthalten, oft erst viel später belegt werden kann als seine Ableitung, oftmals mit einer nicht genau passenden Bedeutung. Die Ableitung *gida* 'Kitzlein' ist z. B. seit mindestens dem 17. Jh. belegt (zweifelhafte Belege sind schon aus dem 13. Jh. bekannt). Da das Grundwort direkt nicht nachgewiesen werden kann, ist es im Artikel zu *gida* durch einen späten, dialektalen Beleg repräsentiert, mit der zwangsweise eingesetzten Formel „Zum Grundwort vgl.": *gid* ⟨Lockruf für Schweine⟩. -- Im Falle von *boci* 'Kälbchen' ist das Grundwort mit der Funktion ⟨Lockruf für Kälbchen⟩ nicht belegt, seine ehemalige Existenz ist jedoch wegen seiner palatalen Entsprechung *bec* ⟨Lockruf für Tiere⟩ wahrscheinlich, aus der durch ein Diminutivsuffix das Substantiv *bece* 'Kälbchen; Schoßkind' entstanden ist. Der velare Vokal des Stammes in *boci* kann auch durch die Analogie zu *borjú* 'Kalb' erklärt werden. Unter Berücksichtigung

dieser Umstände erhielt der Artikel *boci* den Einleitungssatz „Ableitung durch spielerische Wortschöpfung".

Im Zusammenhang mit Ableitungen der Struktur „Interjektion + Diminutivsuffix" möchte ich auf eine Detailfrage eingehen, die im EWUng. vom TESz. abweichend behandelt wird. Das Wort *boci* ist dafür ein gutes Beispiel. Im TESz. wird für diese Ableitung neben der nominalen auch eine interjektionale, also rufende Funktion angenommen. Nach der öfters geäußerten, aber im Druck nicht publizierten Meinung des Teamleiters Loránd Benkő ist diese Annahme allerdings falsch. Wenn nämlich der Lockruf bereits um ein Ableitungssuffix ergänzt worden ist, kann nicht mehr von einem Lockruf die Rede sein, sondern lediglich von einer Tierbezeichnung. Diese Bezeichnung kann selbstverständlich auch zum Locken des Tieres benutzt werden, aber hier handelt es sich nicht mehr um eine Interjektion, sondern um den Fall, dass das Tier durch die Erwähnung seines Namens näher gelockt wird. Dementsprechend wird im EWUng. bei der Wortgeschichte solcher Ableitungen keine interjektionale Bedeutung genannt.

(b) Da die Zahl der onomatopoetischen Stammverben gering ist, ist auch die Zahl der Ableitungen aus solchen Stammverben gering, die selbstständig lemmatisiert wurden. Dies gilt gleichermaßen für deverbale Verben und Nomina.

Aus den Verben, die als „Ableitung" bezeichnet werden, sind durch Iterativsuffix entstanden: *nyihog* 'winseln; wiehern' (aus →*nyí*) und *kapar* 'erhaschen; kratzen; scharren' (wahrscheinlich aus →*kap*). Bei der Besprechung der Stammverben wurde gezeigt, dass das Grundwort *nyí* 'winseln' sicher, *kap* '(er)greifen; bekommen, erreichen' wahrscheinlich onomatopoetischer Herkunft ist. (Dass *kapar* „nur" wahrscheinlich auf das Grundwort *kap* zurückgeht, hat semantische Gründe, gründet also nicht auf den geringeren Schwierigkeiten, der Herkunft von *kap* auf die Spuren zu kommen.)

Deverbale Nomina sind beispielsweise *sirály* 'Möwe' (aus →*sír*[1]) und *kopács* 'grüne Schale der Kastanie, der Nuss; Baumrinde' (aus →*kopik*). Das Lemma *sír*[1] 'weinen; schreien ⟨Vogel⟩' erhält im EWUng. die Bezeichnung „Onomatopoetisch", obwohl in seinem Artikel alternativ vorgeschlagen wird, dass dieses Verb ebenfalls aus dem Stammverb *sí* 'bitterlich weinen; einen schrillen Laut geben' abgeleitet werden könnte. Auf das Grundwort *kopik* 'abgenutzt werden, sich abwetzen' sind wir bereits im Zusammenhang mit den Stammverben eingegangen.

(c) Die denominalen Ableitungen sind mit der Onomatopöie noch indirekter verbunden, als die Ableitungen aus Interjektionen oder Verben. Dies ist darauf zurückzuführen, dass die onomatopoetischen Stammnomina selten

sind, sie haben meist keine Ableitungen, und die wenigen Ausnahmen haben nicht den Rang eines eigenständigen Lemmas verdient. – Es gibt einige Wörter, die dem eben Gesagten scheinbar widersprechen. Dazu gehört zum Beispiel *fitying* 'Geldstück von sehr geringem Wert'. Eine fremde Herkunft wird im EWUng. ausgeschlossen. Der Einleitungssatz lautet: „Innere Entwicklung, wahrscheinlich Ableitung durch spielerische Wortschöpfung". Das angenommene Grundwort *fitty* 'Prahlerei; Schnippchen (als Zeichen der Verachtung)' ist morphologisch gesehen ein Stammnomen. Es weicht jedoch von den onomatopoetischen Vogelnamen ab, indem es vermutlich eine Rückbildung aus dem (in demselben Artikel bearbeiteten) Verb *fittyent* 'mit den Fingern schnalzen' ist. Es stimmt wohl, dass *fittyent* onomatopoetischer Herkunft ist, das Substantiv *fitty* hätte allerdings als selbstständig bearbeitetes Lemma den Einleitungssatz „Innere Entwicklung, wahrscheinlich Rückbildung" erhalten.

Es kommt vor, dass ein Lemma mit der Bezeichnung „Ableitung" auf ein Nomen zurückgeht, das selbst eine Ableitung ist, und nur dessen Stamm als onomatopoetisch bezeichnet werden kann. Die Ableitung ist also durch weitere Derivation entstanden. So ist z. B. *csibész* 'Hühnerhändler; Gauner' entstanden, über dessen Grundwort *csibe* 'Küken' später (**4.1.2.5.**a) zu sprechen sein wird. – Auch Verben können solche Ableitungen sein. Der Einleitungssatz zu *fitymál* 'geringschätzen' lautet: „Innere Entwicklung, wahrscheinlich Ableitung". Laut EWUng. kommt als Grundwort vermutlich *fityma* 'Vorhaut' in Frage; auf den Ursprung dieses substantivierten Partizips werden wir in dem Abschnitt über Wortfamilien (**4.2.2.1.**d) näher eingehen.

4.1.2.2. Wird das Ableitungssuffix an einen fiktiven Stamm gehängt, so ergibt sich für die Einleitungssätze in Abhängigkeit von den Wortarten und den Wahrscheinlichkeitsgraden im Wesentlichen folgendes Schema:

ONOMATOPOETISCHE HERKUNFT DES STAMMS	VERB	NOMEN
sicher	„Onomatopoetisch"	„Ableitung aus einem fiktiven Stamm"
wahrscheinlich	„Wahrscheinlich onomatopoetisch"	„Ableitung aus einem fiktiven Stamm"
unsicher	„Ableitung aus einem fiktiven Stamm"	„Ableitung aus einem fiktiven Stamm"

Die unterschiedliche Behandlung der Wortarten erklärt sich durch die Geschichte und Natur der fiktiven Stämme (**3.3.2.3.**). Wir haben gesehen, dass die

onomatopoetischen Verben im Ungarischen seit vielen Jahrhunderten als eine Einheit aus Stamm und Ableitungssuffix entstehen, d. h. in ihrer Entstehung kann von einem echten Ableitungsprozess nicht die Rede sein, folgerichtig sollte im Einleitungssatz die onomatopoetische Herkunft des Lexems hervorgehoben werden. Das Nomen als Wortartgruppe hingegen bedarf nicht von vornherein eines Ableitungssuffixes, daher ist im Einleitungssatz der suffigierten Nomina der Ableitungscharakter zu betonen.

Ist die Abstammung des Stamms unsicher, so wird die Unterscheidung nach Wortarten aufgehoben. Und zwar aus dem Grunde, weil der Einleitungssatz sich nie ausschließlich auf den Stamm bezieht, sondern immer auf die Gesamtheit des Lexems. Wenn es also sicher ist, dass das Lemma aus einem fiktiven Stamm abgeleitet werden kann, die Herkunft des Stammes hingegen unsicher ist, wird im Einleitungssatz unabhängig von der Wortart die Tatsache der Ableitung in den Vordergrund gestellt, daneben kann die „eventuell onomatopoetische" Herkunft des Stammes nur eine sekundäre Information sein.

(a) Für Verben mit fiktivem Stamm, die die Bezeichnung „Onomatopoetisch" erhalten, ist der Iterativ äußerst charakteristisch. Das Iterativsuffix *-g* ist hier so typisch, dass man es (etwas übertrieben) als das Merkmal der onomatopoetischer Herkunft betrachten könnte. Einige Beispiele aus der Vielzahl der Verben mit dem Suffix *-g*: *bong* 'dumpf tönen', *cineg* 'auf der Geige kratzen; piepsen', *csacsog* 'schwatzen; zwitschern', *csipog* 'piepsen; plappern', *hápog* 'schnattern ⟨Ente⟩; um Atem ringen; stottern'. Es kommen in dieser Herkunftskategorie auch *-l*, *-ál* sowie umfangreichere Iterativsuffixe mit *-l* vor, aber ihre Frequenz bleibt weit hinter der des Suffixes *-g* zurück: *csihol* 'Feuer schlagen', *csócsál* 'pappen; vorkauen ⟨für ein Kleinkind⟩', *bömböl* 'brüllen ⟨Tier, Person, Naturerscheinung⟩; brüllend weinen', *csiripel* 'zwitschern; plaudern; zirpen'. — Bei der Darstellung der Wortfamilien werden wir sehen, dass für die onomatopoetischen Verben die Opposition iteratives *-g* : momentanes *-n* sehr bezeichnend ist. Es kommt allerdings extrem selten vor, dass ein onomatopoetisches Verb mit momentanem Suffix in einem Artikel allein (ohne Sublemmata) steht: *rohan* 'rennen, eilen'.

Wenn die onomatopoetische Erklärung aus irgendeinem (morphologischen, semantischen usw.) Grund nicht als sicher gilt, oder wenn es nicht einmal mit Gewissheit ausgeschlossen werden kann, dass es sich um ein entlehntes Verb handelt, wurde folgender Einleitungssatz gewählt: „Wahrscheinlich onomatopoetisch". Beispiele dafür sind: *dufál* '(wiederholt) stechen; puffen', *hemzseg* 'wimmeln'. — Ein ähnlicher, die Entlehnung jedoch ausschließender Einleitungssatz ist: „Innere Entwicklung, wahrscheinlich onomatopoetisch"; z. B. *cselleng* 'herumschleichen', *henceg* 'prahlen'.

Aus der Tabelle auf Seite 405 und der zugefügten Erläuterung geht hervor, dass der Einleitungssatz bei einem Verbstamm mit ungesicherter, also nur eventuell onomatopoetischer Herkunft folgendermaßen lautet: „Ableitung aus einem fiktiven Stamm". Die Herkunft des Stamms wird in solchen Fällen in der etymologischen Erläuterung im Anschluss an den Einleitungssatz im Allgemeinen durch folgende Formel gekennzeichnet: „Der Stamm ist unbestimmten, eventuell onomatopoetischen Ursprungs". Auf diese Lösung stoßen wir beispielsweise in den Artikeln *cáfol* 'widerlegen; niedertreten; im Schlamm zotteln' sowie *cibál* 'zausen, zerren'.

Um die Übersichtlichkeit des Schemas nicht zu gefährden, wurde in der Tabelle über Einleitungssätze zu Lexemen mit fiktiven Stämmen auf einen weiteren Gesichtspunkt verzichtet. In Wirklichkeit können sich die Einleitungssätze „Onomatopoetisch" oder „Wahrscheinlich onomatopoetisch" nämlich auf solche Verben mit fiktivem Stamm beziehen, die ein für die Onomatopöie charakteristisches (iteratives oder momentanes) Ableitungssuffix enthalten. Ist das Suffix nicht von diesem Typ, so kann es darauf hindeuten, dass das Verb nicht unbedingt als eine Einheit aus Stamm und Suffix entstanden ist, sondern dass es sich hier um einen ähnlichen Ableitungstyp handelt, wie bei den Nomina, die fiktiven Stämmen entstammt sind. Deshalb lautet hier der Einleitungssatz analog zu den Nomina „Ableitung aus einem fiktiven Stamm". Als Beispiel soll das Verb *kutat* 'herumsuchen; (er)forschen' mit onomatopoetischem Stamm dienen; sein Suffix *-at* kann ursprünglich eine momentane-kausative Funktion gehabt und später eine iterative Bedeutung übernommen haben.

Das *-r* ist ein altes Iterativsuffix, aber in der Epoche, seit der die onomatopoetischen Verben typischerweise ab dem Moment ihrer Entstehung ein Suffix beinhalten, war seine Produktivität nicht annähernd so groß wie die von *-g*. Es ist daher äußerst schwer, wenn nicht sogar unmöglich zu entscheiden, was sich hinter der Struktur „onomatopoetischer Stamm + *-r*-Suffix" versteckt: eine echte Ableitung aus einem Stammverb, die gemeinsame Entstehung von Stamm und Suffix oder eine von einem fiktiven Stamm ausgehende Ableitung (mit Analogie). Es ist dieser verflochtenen Frage zuzuschreiben, dass die Kategorisierung solcher Verben im EWUng. nicht vollkommen konsequent geschieht: der Einleitungssatz zum Verb *hadar* 'herumschlagen; hastig sprechen' lautet „Onomatopoetisch", die Verben *kotor* 'scharren, (heraus)graben', *pödör* 'drehen, zwirbeln' werden hingegen mit dem Satz „Ableitung aus einem fiktiven Stamm" eingeleitet. In Anbetracht der Problematik halte ich letztere Lösung für die bessere. (Zur Geschichte des Suffixes *-r* vgl. Benkő 1986.)

(b) Unabhängig vom Wahrscheinlichkeitsgrad der onomatopoetischen Herkunft des fiktiven Stamms erhalten die Nomina den Einleitungssatz „Ableitung

aus einem fiktiven Stamm". Die Herkunft des Stamms geht aus dem Artikel des Nomens meistens nicht hervor, sie wird nur im Artikel zu dem Verb (oder zu der Wortfamilie) verraten, mit dem im Text des jeweiligen Nomens auf den Zusammenhang in der Herkunft hingewiesen wird. Dass die Stämme zu *csacsi* 'Esel(junges); Dummerchen' und *csiszár* 'Waffenschmied; Rosstäuscher' sicher onomatopoetisch sind, erfahren wir aus den Artikeln zu *csacsog* 'schwatzen; zwitschern' bzw. *csiszol* 'schleifen, reiben; polieren', ebenso den onomatopoetischen Charakter des Stammes von *göröngy* 'Scholle, Erdklumpen' aus dem Artikel zur Verbfamilie *görög*[1] 'rollen ⟨intransitiv⟩; donnern'. Dass das Nomen *bugyor* 'Bündel; Ranzen' (nur) vielleicht onomatopoetischer Herkunft ist, wird erst bei der Besprechung von *bugyol* 'einwickeln' (→*bugyolál* 'ds.') im EWUng. deutlich.

4.1.2.3. Bei der Vorstellung der Kategorisierungsaspekte fand bereits Erwähnung, dass es eine Gruppe sog. relativer fiktiver Stämme gibt (**3.3.2.3.**). Ist ein Verb oder ein Nomen aus einem solchen Stamm entstanden, steht im Einleitungssatz: „Ableitung aus einem relativen fiktiven Stamm". Danach wird angegeben, welches Suffix im relativen Stamm enthalten ist. Die Herkunft des absoluten Stammes wird im Allgemeinen indirekt, durch Verweise auf den etymologischen Zusammenhang mit anderen Lemmata deutlich. Der Einleitungssatz ist also nicht davon betroffen, mit welcher Gewissheit von der onomatopoetischen Herkunft des absoluten Stammes ausgegangen wird. — Exemplarisch werden nun ein Verb und ein Nomen vorgestellt.

Der Artikel zum Lemma *döröcköl* 'walken ⟨Tuch⟩; prügeln; quetschen ⟨Trauben⟩' wird nach dem Einleitungssatz so fortgesetzt: „Der relative Stamm entstand mit dem Iterativumbildungssuffix *-sz* (> *-c*). Der absolute Stamm könnte mit dem der Wortfamilien →*dörög*, →*dörömböz* usw. identisch sein. Endung des Wortes: Iterativumbildungssuffix *-köl*." Die im Verweis erwähnten Verben *dörög* 'tosen; es donnert; donnern ⟨von Geschützen⟩' und *dörömböz* 'hämmern' sind onomatopoetischer Herkunft.

Nach dem Einleitungssatz zum Substantiv *cafrang* 'Art Haube; Satteldecke; Hure; herabhängendes Zierwerk, äußerlicher Aufputz; Matsch' steht Folgendes: „Der relative Stamm entstand mit dem Iterativumbildungssuffix *-r*. Der absolute Stamm dürfte mit dem von →*cafka*, →*cáfol* usw. identisch sein. Endung des Wortes: Nomenbildungssuffix *-g*. Inlautendes *n* ist unetymologisch". Von den beiden im Verweis erwähnten Artikeln *cafka* 'Hure' und *cáfol* 'widerlegen; niedertreten; im Schlamm zotteln' wird im letzteren die möglicherweise onomatopoetische Herkunft des (absoluten) Stamms mitgeteilt.

Natürlich kann es auch vorkommen, dass der Einleitungssatz selbst einer Verfeinerung bedarf. So zum Beispiel beim Substantiv *hoporcs* 'Erdscholle; Aufwölbung': „Wahrscheinlich Ableitung aus einem relativen fiktiven Stamm".

4.1.2.4. Unter den suffigierten Wörtern gebührt den substantivierten Partizipien besondere Aufmerksamkeit. Bei der Erörterung der Kategorisierungsprinzipien war bereits davon die Rede, dass in den relevanten Artikeln – entsprechend den allgemeinen Prinzipien des EWUng. – der Wortartwechsel in den Vordergrund gestellt wird. Die Formulierung des Einleitungssatzes wird aber auch durch die Struktur des ursprünglichen Partizips beeinflusst, d. h. zu welchem der unter **4.1.2.** vorgestellten Typen das Partizip gehört.

(a) Wenn das Grundwort des Partizips ein eigenständig dokumentierbares Lexem ist, so lautet der Einleitungssatz: „Wortartwechsel einer Ableitung". Das Grundwort des Partizips kann sowohl ein Stammverb als auch ein suffigiertes Verb sein.

Wir haben bereits das onomatopoetische Stammverb *csúszik* '(aus)rutschen, gleiten; kriechen; etwas schmeckt (gut)' kennen gelernt. Aus dessen Partizip ist die substantivierte Form *csusza* 'Fleckerl, Nudel' entstanden. Die etymologische Erklärung fängt mit folgenden Worten an: „Wortartwechsel einer Ableitung ⊗ Substantiviertes Partizip des Präsens mit Bildungssuffix *-a* aus →*csúszik*".

Dem Lexem *cineg* 'auf der Geige kratzen; piepsen' sind wir bei den onomatopoetischen Verben mit fiktivem Stamm begegnet. Der etymologische Abschnitt unseres Lemmas *cinege* 'Meise' wird so eingeleitet: „Wortartwechsel einer Ableitung ⊗ Substantiviertes Partizip des Präsens mit Bildungssuffix *-e* aus →*cineg*".

(b) Wird das Ableitungssuffix einem fiktiven Stamm angehängt und ist die Substantivierung danach eingetreten, so lautet die Qualifizierung: „Wortartwechsel einer Ableitung eines fiktiven Stammes". Im Artikel *cakó* 'Storch' ist z. B. nach dem Einleitungssatz Folgendes zu lesen: „Substantiviertes Partizip des Präsens mit Bildungssuffix *-ó* ... Der Stamm ist wahrscheinlich onomatopoetischen Ursprungs und hängt mit dem von *cikákodik* (1796), *cikákol* (1799), mundartlichem *cikog* 'hüsteln; gewürgt oder verkutzt husten' zusammen." (Die Datierungen in Klammern sind notwendig, weil diese Verben im Wörterbuch nicht lemmatisiert sind.)

(c) Es kann auch vorkommen, dass wir es mit einem relativen fiktiven Stamm zu tun bekommen, wie z. B. beim Lemma *cafra* 'Hure': „Wortartwechsel einer Ableitung eines relativen fiktiven Stammes ⊗ Substantiviertes Partizip des Präsens mit Bildungssuffix *-a* ... Der relative Stamm ist mit dem von

→*cafrang* identisch. Zum absoluten Stamm vgl.: →*cáfol*." (Zum Lemma und zur Herkunft des absoluten Stamms vgl. S. 408).

Nach der Vorstellung der substantivierten Partizipien möchte ich ergänzend hinzufügen, dass die Adjektivierung eines Partizips – in Anbetracht der Tatsache, dass die zwei Wortarten sich sehr nahe stehen, ja manchmal gar nicht zu differenzieren sind – im EWUng. nicht auf den Rang des Einleitungssatzes gehoben bzw. nicht als Wortartwechsel behandelt wird. Wenn sich also hinter der Formel „fiktiver Stamm + Partizipialableitungssuffix" ein Adjektiv verbirgt, lautet der Einleitungssatz: „Ableitung aus einem fiktiven Stamm". Dies sehen wir u. a. im Artikel zu *gügye* 'albern, unbeholfen', der nach dem Einleitungssatz mit folgenden Worten fortgesetzt wird: „Der Stamm ist mit dem von →*gügyög* identisch. Endung: Partizipbildungssuffix (Präsens) *-e*". *Gügyög* 'lallen, babbeln' ist ein onomatopoetisches Verb mit fiktivem Stamm. – Es kann natürlich auch vorkommen, dass das adjektivierte Partizip aus einem relativen Stamm gebildet wird. Am Beispiel von *buszma* 'tölpelhaft; aufgeblasen' dargestellt: „Ableitung aus einem relativen fiktiven Stamm ⊗ Der relative Stamm mit Momentanbildungssuffix *-m* hängt mit dem von ... →*piszmog* zusammen. Endung: Partizipbildungssuffix (Präsens) *-a*". Der Artikel zum Verb *piszmog* 'langsam an etwas herumarbeiten, pusseln' erhält ebenfalls den Einleitungssatz „Ableitung aus einem fiktiven Stamm". Die onomatopoetische Herkunft des absoluten Stammes kann nur indirekt, aus dem Artikel zu *piszkál* 'durch Stupsen irgendwohin kommen lassen; herumfingern, durch wiederholte Berührung reizen; boshaft tadeln' erschlossen werden.

4.1.2.5. Bei den Wörtern mit Ableitungssuffixen kommen auch – seltene, aber charakteristische – Übergangstypen vor.

(a) Für den einen Typ ist charakteristisch, dass sich in ihm echtes Grundwort und fiktiver Stamm, Ableitung und Wortartwechsel treffen. Als Beispiel sei der Artikel zu *csibe* 'Küken' genannt: „Ableitung, Entstehungsweise aber unbestimmt ⊗ Das Grundwort hängt mit dem mundartlichen *csib-csib, cib-cib* usw.⟨Lockruf für Hühnchen⟩... bzw. mit dem Stamm der Verben →*cseveg*, →*csipog* usw. zusammen. Endung: Diminutivumbildungssuffix oder Partizipbildungssuffix (Präsens) *-e* ... Wenn das Wort ursprünglich ein Partizip des Präsens war, ging Substantivierung vor sich." Die Verben *cseveg* 'zwitschern; plaudern' und *csipog* 'piepsen; plappern' sind onomatopoetische Verben mit fiktivem Stamm.

(b) Von den Lexemen des Typs *csibe* kann so viel sicher behauptet werden, dass sie als eine Art Ableitungswort betrachtet werden können. Im nächsten Übergangstyp ist allerdings mit stärker voneinander abweichenden Ent-

stehungsweisen zu rechnen: eine von ihnen erinnert an Zusammenziehung, die andere ist im Grunde genommen eine Nominalableitung aus einem fiktiven Verbstamm. Dieser doppelte Charakter lässt sich schwer in einem einzigen Einleitungssatz unterbringen. Die Lösung „Onomatopoetisch, Entstehungsweise aber unbestimmt" wurde lediglich mangels einer besseren angenommen.

Als Veranschaulichung habe ich den Artikel zu *cinke* 'Meise' gewählt. Dieser wird nach dem eben zitierten Einleitungssatz so fortgesetzt: „Es entstand vermutlich aus →*cinege* durch Vokalausfall in der zweiten offenen Silbe. Die Endung dürfte unter Einfluß des Diminutivumbildungssuffixes *-ke* entstanden sein. – Man kann aber auch damit rechnen, daß es unmittelbar aus dem Stamm von →*cineg* mit Diminutivumbildungssuffix *-ke* entstand." Auf das im Zitat erwähnte Lemma *cinege* 'Meise' wurde in Verbindung mit den substantivierten Partizipien bereits eingegangen (**4.1.2.4.**a); das Lexem *cineg* 'auf der Geige kratzen; piepsen' wurde bei den onomatopoetischen Verben mit fiktivem Stamm (**4.1.2.2.**a) erwähnt.

Im Vergleich zu diesem Beispiel wird die Wahrscheinlichkeit einer Zusammenziehung etwas reduziert, zugleich die der Derivation erhöht, wenn das (substantivierte) Partizip, das als Ausgangspunkt für die Erklärung dient, nicht nachgewiesen werden kann. So zum Beispiel im Artikel zu *csacska* 'leichtfertig, töricht; schwatzhaft': „Onomatopoetisch, Entstehungsweise aber unbestimmt ⊗ Vermutlich aus einem Partizip des Präsens mit Bildungssuffix *-a* aus →*csacsog*, durch Vokalausfall in der zweiten offenen Silbe. Endung dürfte unter Einfluß des Diminutivumbildungssuffixes *-ka* entstanden sein. Es ist aber möglich, daß es unmittelbar aus dem Stamm von →*csacsog* mit Diminutivumbildungssuffix *-ka* entstand." *Csacsog* 'schwatzen; zwitschern' ist ein onomatopoetisches Verb mit fiktivem Stamm; im Artikel wird ein Wandel **csacsoga* > *csacska* angenommen.

Ab und zu ist es sogar fraglich, ob ein Lexem überhaupt zum Bereich der Onomatopöie gehört. Hier muss am Einleitungssatz eine Ergänzung vorgenommen werden. Zum Beispiel im Artikel *cafka* 'Hure': „Innere Entwicklung, eventuell onomatopoetisch, Entstehungsweise aber unbestimmt". Die nachfolgende Erläuterung folgt dann dem unter *csacska* vorgestellten Schema. Über die (eventuell onomatopoetische) Herkunft des fiktiven Stamms *caf-* gibt der Artikel zum Verb *cáfol* 'widerlegen; niedertreten; im Schlamm zotteln' Auskunft.

(c) In Ausnahmefällen und mangels einer besseren Lösung kann der Einleitungssatz „Onomatopoetisch, Entstehungsweise aber unbestimmt" auch für andere Typen verwendet werden. So im Artikel *gyagya* 'Art Amsel; albern, unbeholfen': „Es ist möglich, daß das Wort mit einfacher Silbenwiederholung die

Stimme des Vogels bzw. die schwer verständliche Rede des primitiven oder geistesgestörten Menschen imitiert. Man kann aber auch damit rechnen, daß *gyagya* Ableitung aus einem fiktiven Stamm mit Partizipbildungssuffix (Präsens) *-a* ... ist; in diesem Fall hängt dieser Stamm mit dem von →*gagyog* eng zusammen." *Gagyog* 'lallen' ist ein onomatopoetisches Verb mit fiktivem Stamm.

4.1.3. Neben Ableitungswörtern und Produkten des Wortartwechsels verfügt das EWUng. über weitere Artikeltypen, die allerdings nur lose mit der Onomatopöie verbunden sind.

4.1.3.1. Zunächst sei das Gegenteil der Ableitung, die Rückbildung erwähnt. Das Phänomen wurde selten auf den Rang des Einleitungssatzes gehoben, da diese Entstehungsweise sehr viel eher für Sublemmata von Wortfamilien charakteristisch ist. Eins der vereinzelt dennoch vorhandenen Beispiele ist der Artikel zu *szende* 'gelassen; mild; naiv; Naive': „Rückbildung durch bewußte Wortschöpfung ⊗ Aus den Verben der Wortfamilie →*szenderetesség*, zur Zeit der Spracherneuerung:" Zur Wortfamilie *szenderetesség* 'Seelenfrieden' gehören die Verben: *szenderedik* '(ein)schlummern', *szenderít* 'einschläfern; beruhigen', *szendereg* 'schlummern', *szenderül* '(ein)schlummern; sich beruhigen'. Alle diese Verben entstammen einem relativen fiktiven Stamm, ihr absoluter Stamm ist vermutlich onomatopoetischer Herkunft.

4.1.3.2. Hier müssen auch diejenigen Lemmata erwähnt werden, die durch die Spaltung eines onomatopoetischen Lexems entstanden sind. Ihr Einleitungssatz lautet natürlich: „Wortspaltung". Diese Qualifizierung schließt nicht aus, dass die Lexeme am Anfang und am Ende des Prozesses identische Bedeutungen haben, aber die beiden Wörter müssen sich in ihrer Hauptbedeutung unterscheiden. Zum Beispiel bei folgenden Wörtern, wobei die Hauptbedeutungen durch [!] gekennzeichnet sind: *ciripel* 'zirpen [!]; zwitschern' (aus *csiripel* 'zwitschern [!]; plaudern; zirpen'), *cserreg* 'krähen, krächzen ⟨hauptsächlich Vogel⟩' (aus *csörög* 'rieseln ⟨Bach⟩; rasseln ⟨intransitiv⟩ [!]; klappern [!]'), *dürög* 'balzen' (aus *dörög* 'tosen; es donnert [!]; donnern ⟨von Geschützen⟩ [!]'). *Csiripel*, *csörög* und *dörög* sind onomatopoetische Verben mit fiktivem Stamm.

4.1.3.3. An dieser Stelle können wir auch auf diejenigen Komposita eingehen, in denen ein oder mehrere Bestandteile einen onomatopoetischen Bezug haben.

Der Einleitungssatz lautet „Kompositum" beispielsweise in folgenden Artikeln: *ejnye* ⟨Interjektion, hauptsächlich zum Ausdruck von Ärger, Missfallen, Verwunderung⟩, *hűhó* 'Geschrei, großer Umsturz; spektakuläres Fest' bzw. ⟨Treibewort für Zugtiere; Ruf zum Anhalten von Jagdhunden⟩; *fecstej* 'Biest-

milch'. *Ejnye* ist eine Verschmelzung aus *ej* (→*eh*) und *ne*[1], *hűhó* aus den Interjektionen *hű*[2] und *hó*[3]. Das Glied *tej* 'Milch' in *fecstej* ist ein iranisches Lehnwort; das in selbstständiger Form nicht belegte erste Glied ist hingegen onomatopoetischer Herkunft: es stimmt mit dem Stamm der Wortfamilie überein, zu der auch *fecskend* 'spritzen ⟨intransitiv⟩; bespritzen' gehört.

Ebenfalls auf eine feste Zusammengehörigkeit wird mit dem Einleitungssatz „Kompositum, Zwillingswort" verwiesen. Diese Qualifizierung erhielten z. B.: *cseng-bong* 'klingen, tönen', *csihi-puhi* ⟨Interjektion zur Schallnachahmung des Prügelns⟩ bzw. 'Schläge(rei)'. – *Cseng* 'klingen' und *bong* 'dumpf tönen' sind onomatopoetische Verben mit fiktivem Stamm. – Die beiden, eigenständig nicht belegten Elemente von *csihi-puhi* sind aus fiktiven Stämmen mit spielerischen deverbalen Suffixen entstanden. Beide Verbstämme sind onomatopoetischer Herkunft: der erste steht im Zusammenhang mit dem Stamm der Verben *csihol* 'Feuer schlagen' und *suhog* 'schwirren, sausen', der zweite mit dem Stamm der Lexeme *puha* 'verwöhnt, schwach; seidig; weich' und *páhol* 'schlagen, prügeln' (→*páhog* 'ds.').

Ein anderer Typ der Zwillingswörter ist durch Teilung entstanden, d. h. der eine Bestandteil ist eine spielerische Variante des anderen Bestandteils. Hier lautet der Einleitungssatz: „Zwillingswort durch spielerische Wortschöpfung". Im Adjektiv *nyimnyám* 'schlapp, unbeholfen' ist z. B. primär der Bestandteil *-nyám* entstanden; vermutlich als Rückbildung aus dem onomatopoetischen *nyámmog* 'gedehnt sprechen, mummeln; etwas widerstrebend tun; muffeln, nibbeln', das einen fiktiven Stamm enthält.

4.1.4. Bestehen zu einem Lexem zwei Etymologien, die laut EWUng. Beachtung verdienen, so lautet der Einleitungssatz: „Umstrittenen Ursprungs". Unter den Erklärungen kann theoretisch natürlich jede Herkunftskategorie vertreten sein, so auch die Onomatopöie oder die mit ihr enger oder loser verbundenen Kategorien. Es wird jedoch in Wirklichkeit nur ein relativ kleiner Anteil der Möglichkeiten realisiert. – Ist das Lexem nach einer der Erklärungen ein intern entstandenes Wort, so muss diese Hauptkategorie zwecks der Gegenüberstellung mit der Qualifizierung „Erbwort" oder „Lehnwort" bereits in der Eingangsformel Erwähnung finden.

Die Reihe der Beispiele für Lemmata umstrittenen Ursprungs soll mit der Interjektion *jé* ⟨hauptsächlich zum Ausdruck des Staunens⟩ begonnen werden. Die 1. Erklärung lautet: „Innere Entwicklung, onomatopoetisch"; die 2. Herleitung: „Lehnwort aus dem Deutschen". – Im Falle von *birka* 'Schaf; Dummkopf' lautet die 1. Etymologie: „Innere Entwicklung, Ableitung. Das Grundwort hängt mit dem mundartlichen *ber, brr* usw. ⟨Treibewort für Schafe⟩ ...

zusammen; vgl. noch: →*berbitél* ['murmeln; sich begatten']. Endung: Diminutivumbildungssuffix." Die 2. Alternative: „Lehnwort aus dem Tschechischen". — Im Artikel zu *bútor* 'Möbel; Bündel' steht an 1. Stelle: „Innere Entwicklung, Wortspaltung aus →*bugyor*". Die Herkunft von *bugyor* 'Bündel; Ranzen' wurde bereits bei den Nomina mit fiktivem Stamm (**4.1.2.2.**b.) angesprochen. Die 2. Erklärung: „Lehnwort aus einer süd- oder ostslawischen Sprache". — Zum Schluss soll *bim-bam* ⟨Interjektion als Nachahmung des Glockenschlages⟩ bzw. 'Glockenklang' genannt werden. An 1. Stelle steht: „Innere Entwicklung, Zwillingswort, onomatopoetisch". Die 2. Erklärung: „Lehnwort aus dem Deutschen".

4.2. Vor der Übersicht der Wortfamilien sei kurz an das unter **3.3.1.** Gesagte erinnert: im EWUng. wird der Ausdruck „Wortfamilie" für Artikel verwendet, die Sublemmata enthalten; die Termini „Hauptlemma" und „Sublemma" bezeichnen lediglich eine formale Reihenfolge, keine etymologische Rangfolge.

Die Formulierung der Einleitungssätze zu den Wortfamilien (und somit zu den etymologischen Erklärungen) ist einerseits durch die Eigenschaften der einzelnen Familienmitglieder, andererseits durch das Verhältnis zwischen den einzelnen Familienmitgliedern bestimmt. Die Qualifizierung der Wortfamilien mit onomatopoetischem Bezug baut also auf den unter **4.1.** vorgestellten Kategorien auf, hängt aber auch stark davon ab, ob für die jeweilige Wortfamilie das Verhältnis Bruder : Bruder oder Vater : Sohn charakteristisch(er) ist.

Durch die Vielfalt der Wortfamilien musste im EWUng. eine breite Palette von Einleitungssätzen Verwendung finden. Als „Kostprobe" können an dieser Stelle leider lediglich ein paar wichtige, charakteristische Typen vorgestellt werden, in der Hoffnung, dass anhand dieser Typen auch die nicht zitierten Einleitungssätze „abgeleitet" werden können.

4.2.1. Besteht zwischen den Mitgliedern der Wortfamilie ein etymologisch gleichrangiges, also Bruder : Bruder-Verhältnis, so wird im Einleitungssatz das Wort „Wortfamilie" in der Mehrzahl der Fälle gar nicht erwähnt. Hier sind die Abkürzungen des EWUng. „Onomatop.", „Abl." usw. als „Onomatopoetische Wörter", „Ableitungen" usw. zu lesen.

4.2.1.1. In einigen wenigen Fällen kommt es vor, dass die Wortfamilie ausschließlich aus nicht suffigierten Mitgliedern besteht. Der Einleitungssatz lautet hier selbstverständlich: „Onomatopoetische Wörter".

Interjektionen, die miteinander verwandt sind, sollten (aufgrund phonologischer, funktionaler usw. Abweichungen) in der Regel getrennt angeführt werden, können aber gelegentlich auch in einem gemeinsamen Artikel besprochen

werden. So wurden unter dem Hauptlemma *á* zusätzlich *ah, aha* und *aj* untergebracht: alle vier Interjektionen können vielfältige Emotionen ausdrücken.

Durch die geringe Zahl der Stammverben und Stammnomina sind die Möglichkeiten der Zusammenfassung zu Wortfamilien stark begrenzt. Aus dem Grunde stellt das Nomenverbum *köp* eine interessante Ausnahme dar: im Abschnitt zur Wortgeschichte steht an erster Stelle das Verb ('spucken; Angaben fließend hersagen; ein Geständnis ablegen'), an zweiter Stelle folgt das lediglich dialektal gebräuchliche Nomen ('Spucke, Auswurf').

4.2.1.2. Selbstverständlich sind Wortfamilien, die aus Wörtern mit Ableitungssuffixen bestehen, sehr viel häufiger, obwohl dies nicht auf jeden Untertyp gleichermaßen zutrifft.

(a) Von den Ableitungen der onomatopoetischen Lexeme wurden im EWUng relativ wenige als eigenständige Lemmata herausgearbeitet, daher können aus solchen Ableitungen wenig Wortfamilien hervorgegangen sein. Werden sie dennoch ab und zu im gemeinsamen Artikel besprochen, so ist dieser Umstand natürlich dem gemeinsamen Grundwort zu verdanken. Mit dem Satz „Ableitungen" wird zum Beispiel folgende Verbgruppe eingeleitet: *nyivákol* 'weinen (hauptsächlich Kind); miauen' : *nyivog* 'weinen (Kind); winseln (Tier)', deren Grundwort *nyí* 'winseln' als onomatopoetisches Stammverb als eigenständiges Lemma aufgenommen wurde.

Im Abschnitt **4.1.2.1.** wurde – mangels eines geeigneten Beispiels – nicht erwähnt, dass in unserem Wörterbuch auch dann der Einleitungssatz „Ableitung(en)" steht, wenn das Grundwort zu einem oder mehreren deverbalen Ableitungen nicht belegt ist, seine ehemalige Existenz jedoch aufgrund eines vorhandenen Nomens wahrscheinlich ist. In diesen Fällen wird davon ausgegangen, dass von den Realisierungen eines alten Nomenverbums lediglich das Nomen bis ins Zeitalter der Sprachdenkmäler überliefert wurde. Die verbale Realisierung als eigenständiges Lexem ist ausgestorben, lebt aber in einer oder mehreren Ableitungen als Stamm weiter. Die Annahme einer deverbalen Entstehung der Ableitungen liegt in erster Linie wegen der (vor allem iterativen oder momentanen) Funktion ihrer Suffixe nahe. – Das Phänomen soll durch den Artikel zu *kacsint* 'jmdm. mit einem Auge zublinzeln, verstohlen gucken; stocken' veranschaulicht werden. Sublemmata sind: *kacsingat* '(lieb)äugeln, jmdm. mit einem Auge zublinzeln; sich verstohlen interessieren für etwas bzw. jmdn.', *kacsing* 'jmdm. mit einem Auge zublinzeln, verstohlen gucken'. Die Essenz der etymologischen Erklärung ist: „Ableitungen ⊗ Das Grundwort dürfte verbale Realisation (in Bedeutung 'krumm sein, sich krümmen') eines ursprünglichen Nomenverbs sein, dessen nominale Realisation →*kacs* ist. Endungen:

verschiedene deverbale Verbumsuffixe." Der Einleitungssatz zu *kacs* 'Haken; (Wein)ranke' lautet (wie auf Seite 402 angegeben): „Unbestimmten Ursprungs, eventuell onomatopoetisch".

(b) Für die onomatopoetischen Verben ist der fiktive Stamm äußerst charakteristisch, zur Bezeichnung der Aktionsart können demselben Stamm verschiedene Ableitungssuffixe angehängt werden, Verben mit identischem Stamm sollten wiederum der Übersichtlichkeit halber in einem gemeinsamen Artikel, sprich als Wortfamilie behandelt werden. Aus alledem folgt, dass wir im EWUng. von Schritt zu Tritt solchen Wortfamilien begegnen, die aus onomatopoetischen Verben mit fiktivem Stamm bestehen. Solche Artikel werden selbstverständlich mit dem Satz „Onomatopoetische Wörter" eingeleitet.

Es war bereits unter **4.1.2.2.**a. davon die Rede, dass in den onomatopoetischen Wortfamilien die Opposition iteratives *-g* : momentanes *-n* sehr häufig eine Rolle spielt, was sich oft als eine wortinterne konsonantische Opposition kurz : lang realisiert. Von der Vielfalt der Beispiele sollen hier nur zwei genannt werden, in der Reihenfolge Hauptlemma : Sublemma: *döcög* 'zittern; holpern, watscheln; kichern' : *döccen* 'einmal rumpeln' bzw. *huppan* 'plumpsen; knallen' : *hupog* 'prügeln; (nieder)plumpsen; knallern'.

Eine Wortfamilie kann natürlich auch mehrere Mitglieder umfassen, wobei die Oppositionen zwischen den Ableitungssuffixen abwechslungsreich kombiniert sein können. An dieser Stelle sollen exemplarisch die Mitglieder einer (sechsköpfigen) Familie in zeitlicher Reihenfolge aufgezählt werden, ohne auf die Funktion der Ableitungssuffixe näher einzugehen: *csörög* 'rieseln ⟨Bach⟩; rasseln ⟨intransitiv⟩; klappern' : *csörget* 'rasseln ⟨transitiv⟩, mit etwas klappern' : *csördít* 'klirren machen, knallen' : *csördül* '(er)klirren' : *csörgedezik* 'flüstern; rieseln' : *csörren* 'erklirren'.

Auch für die Wortfamilien gilt die Unterscheidung, die wir bei der Besprechung der in ihrem Artikel allein stehenden Verben mit fiktivem Stamm (**4.1.2.2.**) gesehen haben: ist der Ursprung des Verbstamms ungewiss, so lautet der Einleitungssatz nicht „Onomatopoetische Wörter", sondern „Ableitungen aus einem fiktiven Stamm". Danach steht im Artikel der Wortfamilie *fityeg* 'hinab-, herabhängen' : *fittyen* 'die Haut wird einem geschwürig; plötzlich herab-, hinabfallen' beispielsweise: „Der Stamm ist unbestimmten, eventuell onomatopoetischen Ursprungs".

(c) Äußerst selten ist das Vorkommen solcher Wortfamilien, die ausschließlich aus gleichwertigen Nomina mit fiktivem Stamm bestehen. Der einleitende Satz heißt hier selbstverständlich: „Ableitungen aus einem fiktiven Stamm". Auskunft über den Stamm wird in der Fortsetzung gegeben. Im Artikel der Wortfamilie *piciny* 'kleinwinzig; kleines Kind; Liebste(r) ⟨hauptsächlich als An-

rede)': *picorok* 'kleinwinzig': *pici* 'kleinwinzig; gering, wenig; Pyrichius ⟨Versfuß⟩; kleines Kind': *picurka* 'kleinwinzig' zum Beispiel so: „Der Stamm ist onomatopoetischen Ursprungs".

(d) Kommen in einer Wortfamilie sowohl Verben als auch Nomina vor, so hängt der Einleitungssatz stark davon ab, für wie sicher die onomatopoetische Herkunft des Stammes gehalten wird.

Besteht kein Zweifel darüber, dass der Stamm onomatopoetischen Ursprungs ist, so muss nach einem Kompromiss gesucht werden, da das Verb allein als „Onomatopoetisch", das Nomen allerdings als „Ableitung aus einem fiktiven Stamm" beschrieben würde. Das Ergebnis der Übereinkunft ist (unabhängig von der Anzahl der Familienmitglieder) folgender Einleitungssatz: „Wortfamilie aus einem onomatopoetischen Stamm". Er ist beispielsweise im folgenden Artikel mit einem Nomen und drei Verben zu finden: *bufa* 'übergroß; pausbäckig; dumm; Backen; Schlag auf den Rücken': *buffant* 'einen dumpfen Ton von sich geben ⟨Tier⟩': *buffan* 'einen dumpfen Ton von sich geben; plumpsen': *bufog* 'dumpf schallen'.

Ist der Ursprung des Stammes ungewiss, ist kein Kompromiss erforderlich, da in diesen Fällen, wie wir gesehen haben (**4.1.2.2.**), Verben und Nomina dieselbe Qualifizierung erhalten. Der Einleitungssatz lautet hier also einfach: „Ableitungen aus einem fiktiven Stamm". Die exemplarisch vorzustellende Wortfamilie besteht aus einem Adjektiv und vier Verben: *fitos* 'aufgestülpt, stülpnasig': *fitorodik* 'sich (seitwärts) krümmen, aufgestülpt werden': *fitul* 'aufgestülpt werden': *fitít* 'rümpfen, aufstülpen': *fitorít* '(Haare) locken; rümpfen, aufstülpen, verzerren'. Nach dem Einleitungssatz steht: „Zum Ursprung des Stammes vgl. →*fitogat*." Aus dem Artikel zu *fitogat* 'zur Schau tragen, mit etwas prahlen' erfahren wir wiederum: „Der Stamm ist unbestimmten, eventuell onomatopoetischen Ursprungs".

(e) Sind gleichwertige Familienmitglieder durch einen gemeinsamen relativen Stamm verbunden, so lautet der Einleitungssatz: „Ableitungen aus einem relativen fiktiven Stamm". Anschließend werden im Artikel die Entstehungsweise des relativen Stamms sowie der absolute Stamm behandelt. Als Beispiel sei der Artikel zur Wortfamilie *hemperkedik* 'herumgeworfen werden; sich herumwälzen': *hempereg* 'rollen ⟨intransitiv⟩, sich hin und her wälzen; sich herumwälzen': *hemperget* '(herum)wälzen': *hemperedik* 'rollen ⟨intransitiv⟩': *hemperít* 'wälzen' zitiert: „Der relative Stamm entstand mit Iterativumbildungssuffix *-r*. Der absolute Stamm ist wahrscheinlich onomatopoetischen Ursprungs".

4.2.1.3. Setzt sich eine Wortfamilie aus einem suffigierten und aus einem suffixlosen Mitglied zusammen, so ist natürlich anzunehmen, dass das eine Mitglied

aus dem anderen entstanden ist, d. h. es besteht zwischen ihnen ein Vater: Sohn-Verhältnis. In einigen wenigen Fällen muss dennoch das Verhältnis Bruder: Bruder, also die Möglichkeit der parallelen Entstehung erwogen werden. Damit ist am ehesten, sogar fast ausschließlich bei der Opposition Interjektion: suffigiertes Verb zu rechnen (vgl. Benkő 1967, 308; 1984, 50–1), jedoch natürlich nur dann, wenn die Datierung oder andere Faktoren (Phonologie, Semantik usw.) nicht eindeutig auf eine Ableitung oder Rückbildung hinweisen. Wenn wir annehmen, dass eine Interjektion und ein suffigiertes Verb in enger Verbindung und zum gleichen Zeitpunkt in der Geschichte einer Sprache aufgetaucht sind, und wenn die beiden Wörter auch wegen lexikographischen Gesichtspunkten (Komplexität des Artikels, lose Verbindung usw.) keine getrennte Behandlung verlangen, so können die beiden Lexeme in einer Wortfamilie zusammengefasst werden, mit folgendem Einleitungssatz: „Wortfamilie aus einem onomatopoetischen Stamm". In der Erläuterung kann dann eine Aussage stehen wie im Artikel der Wortfamilie *csi* 'pst': *csigat* 'beschwichtigen, beruhigen': „*csi* und *csigat* dürften parallel entstanden sein".

4.2.2. Für eine weitere große Gruppe der Wortfamilien ist das Verhältnis Vater : Sohn charakteristisch. Dies bedeutet, dass in der Wortgruppe eins der Lexeme unter etymologischem Gesichtspunkt als primär bewertet wird, d. h. als Grundlage bei der Entstehung der anderen Mitglieder gedient hat. Dieses Familienmitglied (der „Vater"), das eine besondere Beachtung bzw. Hervorhebung verdient, wird im Artikel als „Ausgangswort" bezeichnet. – Wie bereits mehrmals betont, stimmt das Ausgangswort nicht unbedingt mit dem am frühesten belegbaren Hauptlemma überein.

Häufig hat eine Wortfamilie mehrere (einander gleichgestellte) Mitglieder, die im Vergleich zu anderen Lexemen der Wortfamilie etymologisch gesehen primär sind. In diesen Fällen wird die Hierarchie im EWUng. durch die Formel „Ausgangswörter der Wortfamilie" verdeutlicht. (Hier fängt die Familienmetapher allerdings zu hinken an, denn es handelt sich ja um einen oder mehrere gemeinsame „Söhne" mehrerer „Väter".)

4.2.2.1. Zunächst soll hier eine Kostprobe von denjenigen Fällen folgen, in denen ein konkretes Lexem als Ausgangswort der Wortfamilie angegeben werden kann.

(a) Im EWUng. werden die Ableitungen meist im wortgeschichtlichen Abschnitt ihres Grundwortes genannt. Wir haben auch Beispiele dafür gesehen (vgl. insbesondere **4.1.2.1.**), dass bestimmte abgeleitete Wörter auf den Rang eines eigenständigen Lemmas gehoben wurden. Es gibt auch eine mittlere Lö-

sung: das Grundwort und die Ableitung werden in einem gemeinsamen Artikel genannt, in dem die Ableitung — ähnlich dem Grundwort — eine eigenständige wortgeschichtliche Einheit bildet, also als Haupt- oder Sublemma fungiert. Diese Lösung (dass unter den Mitgliedern einer Wortfamilie das Grundwort und eine oder mehrere Ableitungen von ihm zusammengefasst werden) wird dann angewandt, wenn die Ableitung im (heutigen) Wortschatz der Sprache eine wichtigere Rolle spielt als ihr Grundwort. Dies kommt dann vor, wenn das Grundwort ausgestorben oder veraltet ist oder nur noch dialektal fortbesteht. — Als Veranschaulichung sollen drei Beispiele dienen.

Das erste ist die Wortfamilie *álmél* 'erschrecken; staunen' : *álmélkodik* 'staunen; erschrecken; ermatten'. Das Lexem *álmél*, das einen fiktiven Stamm enthält, ist bereits ausgestorben, *álmélkodik* hingegen lebt in der Standardsprache weiter. Der Einleitungssatz zum etymologischen Abschnitt des Artikels lautet: „Ausgangswort der Wortfamilie, *álmél*: onomatopoetisch". Von *álmélkodik* wird mitgeteilt, dass es mittels eines Iterativ-Reflexiv-Suffixes aus *álmél* abgeleitet wurde.

Von den Mitgliedern der Wortfamilie *csoszog* 'schlürfend gehen' : *csosz* 'schlürfend gehen; koitieren' : *csosszant* 'schlürfend gehen; latschen lassen' : *csosszan* 'anwandeln ⟨Lust usw.⟩; etwas fällt (auch für ihn) ab; ausgleiten, zu gleiten anfangen' ist in der Standardsprache lediglich *csoszog* vertreten, die anderen drei Verben erhalten im EWUng. die Kategorisierung dialektal. Dies ändert allerdings nichts daran, dass in der etymologischen Entwicklung *csosz* die Schlüsselrolle gespielt hat: „Ausgangswort der Wortfamilie, *csosz*: onomatopoetisch ⊗ ... Es ist gewiß uralt, da es ein onomatopoetisches Verb ohne Bildungssuffix ist, es fanden sich aber lange Zeit keine Belege für das Wort, denn es war nur in den Mundarten gebräuchlich ... *csoszog*, *csosszant* und *csosszan* sind Ableitungen aus *csosz* mit Iterativum-, Momentan-Kausativum- und Momentanbildungssuffix."

Im dritten Beispiel besteht die Wortfamilie aus dem dialektalen Substantiv *bece* 'Kälbchen; Schoßkind' und aus dem daraus gebildeten, in die Standardsprache übernommenen Verb *becéz* 'liebkosen; liebkosend rufen, beim Kosenamen nennen': „Ausgangswort der Wortfamilie, *bece*: Ableitung ⊗ Aus *bec* ⟨Lockruf für Tiere⟩ (1786) mit Diminutivumbildungssuffix *-e* ... *bece* entstand in der Kindersprache und lebt heute hauptsächlich im Kompositum *becenév* 'Kosename' (1897). *becéz* ist Ableitung aus *bece* mit Verbumbildungssuffix *-z*."

(b) Das Ausgangswort kann auch dann genannt werden, wenn ein Familienmitglied nicht durch Ableitung, sondern durch Rückbildung aus einem anderen Mitglied entstanden ist. Um es am Beispiel von *csóva* 'Strohbund; Strohbündel zum Feuermachen; Kometenschweif' : *csóvál* 'schwingen, wedeln'

zu veranschaulichen: „Ausgangswort der Wortfamilie, csóvál: wahrscheinlich onomatopoetisch ⊗ Vermutlich zur Nachahmung des Geräusches des Schwingens, Wirbelns beim Feuern mit Strohbund und Zunder. Der Stamm dürfte mit dem der Wortfamilien →*suhog*, →*suvad* zusammenhängen. Endung: Iterativumbildungssuffix *-ál*. *csóva* ist Rückbildung aus *csóvál*." Die als Verweis genannten Lemmata *suhog* 'schwirren, sausen' und *suvad* 'schlagen; sich lockern; einstürzen' gehören zu onomatopoetischen Wortfamilien mit fiktivem Stamm.

(c) Wir haben es auch dann mit einem Ausgangswort zu tun, wenn ein Familienmitglied zwar nicht aus einem anderen Mitglied abgeleitet oder rückgebildet wurde, dennoch unter seinem Einfluss entstanden ist.

So z. B. in der Familie, die sich aus dem Verb *hajhász* '(nach)jagen' und aus dem Substantiv *hajhász* 'Treiber; Fahndungsbeamter; Makler' zusammensetzt: „Ausgangswort der Wortfamilie, Verb *hajhász*: Ableitung ⊗ Aus →*haj*[2] oder eventuell *hajha* (→*haj*[2]) mit Iterativumbildungssuffix. — Nomen *hajhász* entstand aufgrund des Verbs nach Analogie der Nomenverben wie *halászik* ['fischen']: *halász* ['Fischer'] (→*hal*[2] ['Fisch']), *vadászik* ['jagen']: *vadász* ['Jäger'] (→*vad* ['Wild']) usw." Das im Verweis erwähnte onomatopoetische *haj*[2] ist eine funktionsreiche Interjektion, die als Grundwort zum Verb *hajhász* als Treibewort gedient hat.

Hängt sich dem Stamm eines onomatopoetischen Verbs ein Adjektivalsuffix sekundär — man könnte auch sagen: analog zum Verb, unter Einfluss des Verbs — an, so ist das Verb als Ausgangswort der Wortfamilie anzusehen. Dies kann beispielsweise im Artikel zur Familie *cserfel* 'widerreden; schwätzen': *cserfes* 'redselig' beobachtet werden: „Ausgangswort der Wortfamilie, *cserfel*: onomatopoetisch ⊗ ... *cserfes* entstand aufgrund von *cserfel* mit Adjektivbildungssuffix."

(d) Unter den Wortfamilien, die in engerer oder loserer Beziehung zur Onomatopöie stehen, sind die rein aus Nomina bestehenden schwach vertreten. Mit dem folgenden, exemplarisch ausgewählten Artikel möchte ich zugleich verdeutlichen, dass wir uns des etymologisch primären Ranges des scheinbaren Ausgangsworts nicht immer vollkommen sicher sein können. Im aktuellen Beispiel von der Wortfamilie *fityma* 'Vorhaut': *fitymány* 'Vorhaut' entsteht der Zweifel aufgrund der ungewöhnlichen Bildungsweise der Lexeme: „Wahrscheinliches Ausgangswort der Wortfamilie, *fityma*: Wortartwechsel einer Ableitung eines relativen fiktiven Stammes ⊗ Substantiviertes Partizip des Präsens mit Bildungssuffix *-a* ... Der relative Stamm entstand mit Momentanbildungssuffix *-m*. Der absolute Stamm ist mit dem der Wortfamilie →*fityeg* identisch. — *fitymány* dürfte aus *fityma* mit Nomenbildungssuffix entstanden sein." Der Ur-

sprung der Wortfamilie *fityeg* 'hinab-, herabhängen' wurde bereits auf Seite 416 thematisiert.

4.2.2.2. Die Formel „Ausgangswörter der Wortfamilie" kommt dann vor, wenn das nominale oder interjektionale Mitglied der Wortfamilie aus den Verben der Wortfamilie oder von ihnen ausgehend entstanden ist.

(a) Der typischste Fall ist hier die Rückbildung aus den Verben. Es wurde je ein Beispiel bezüglich eines Nomens bzw. einer Interjektion gewählt. In beiden Artikeln treffen wir auf einen etwas holperigen Satz, der aber das Wesentliche wiedergibt: „Ausgangswörter der Wortfamilie, die Verben: onomatopoetische Wörter".

Am Ende der etymologischen Erklärung zur Wortfamilie *fröcsög* 'rieseln; tröpfeln, (herum)spritzen' : *fröccsen* 'spritzen ⟨intransitiv⟩' : *fröcsköl* 'spritzen ⟨intransitiv⟩; bespritzen' : *fröccs* 'Art Getränk aus Wein und Sprudelwasser' können wir Folgendes lesen: „*fröccs* wurde als bewußte Wortschöpfung unter Einfluß von deutschem (wienerischem) *spritzer* 'Art Getränk aus Wein und Sprudelwasser' aus den Verben rückgebildet".

Im Artikel zur Wortfamilie *csattan* 'mit Gerassel sich wegbegeben; knallen' : *csattog* 'rasseln, knallen; schlagen ⟨Nachtigall⟩' : *csattogat* '(zusammen)schlagen; mit der Peitsche knallen' : *csatt* ⟨Interjektion zur Nachahmung des Knallens⟩ : *csattant* '(einmal) knallen, klatschen, schnalzen' : *csattint* 'ds.' steht unter anderem: „*csatt* ist wahrscheinlich Rückbildung aus den Verben der Wortfamilie".

(b) Der Einleitungssatz lautet ebenfalls „Ausgangswörter der Wortfamilie, die Verben: onomatopoetische Wörter", wenn das nominale Mitglied der Familie aus dem Stamm der Verben bzw. unter deren Einfluss entstanden ist. Dies kann am Beispiel der Wortfamilie *dörög* 'tosen; es donnert; donnern ⟨von Geschützen⟩' : *dördül* 'zu donnern anfangen, erdröhnen, ertönen' : *dördít* 'dröhnen machen; anschreien' : *dörren* 'erdröhnen, ertönen' : *dörej* 'Knall, Dröhnen' beobachtet werden: „*dörej* entstand aufgrund der Verben mit Nomenbildungssuffix".

4.2.2.3. Des Weiteren sollte ein eigenartiger Typ der Wortfamilien Erwähnung finden, in dem ein (evtl. mehrere) Nomen zusammen mit mehreren Verben vorkommt, aber nur ein Teil der Verben dem Nomen zeitlich vorausgeht, wo also die Formel „Ausgangswörter der Wortfamilie" fehl am Platz wäre. Statt ihr wurde in diesen Fällen im EWUng. der Einleitungssatz „Die Verben der Wortfamilie sind onomatopoetisch" verwendet.

Zu den einzelnen Mitgliedern der folgenden vorzustellenden Wortfamilie werden ausnahmsweise auch die Jahreszahlen ihres ersten Belegs angegeben, um die Erklärung dadurch zu verdeutlichen: *ficamlik* 'verrenkt werden' (1557): *ficamít* 'verrenken' (1585): *ficamodik* 'verrenkt werden' (1585): *ficamik* 'verrenkt werden' (1784): *ficam* 'Verrenkung' (1818): *ficcan* 'verrenkt werden; es rutscht einem aus; sich überschlagen ⟨die Zunge⟩' (1833): *ficcant* 'verrenken; verfehlen ⟨Wort⟩, sich überschlagen ⟨die Zunge⟩' (1833). Der Einleitungssatz wird so fortgesetzt: „Der Stamm ist mit dem der Wortfamilie →*fickándozik* ['zappeln, tänzeln'] identisch und hängt mit dem der Wortfamilie →*biccent* ['kippen lassen; hinken; nicken'] zusammen. Endungen: verschiedene Verbumsuffixe. Die Beziehung von *ficamik* zu den früheren Gliedern der Wortfamilie ist nicht ganz klar. — *ficam* wurde zur Zeit der Spracherneuerung aus den früheren Verben rückgebildet."

4.2.3. In den bisher vorgestellten Wortfamilien waren die Verhältnisse der Mitglieder untereinander (ganz oder nahezu) geklärt. Es gibt allerdings auch Fälle, in denen auf die Frage nach der etymologischen Hierarchie mehrere Antworten möglich sind: in diesen Fällen ist es schwer (oder gar nicht) zu entscheiden, welches Familienmitglied aus einem anderen entstanden ist, in manchen Fällen ist die Frage nicht einmal eindeutig zu beantworten, ob es unter den Mitgliedern ein Ausgangswort gibt.

Um die Orientierung in der Verflechtung der Möglichkeiten einigermaßen zu erleichtern, habe ich zur Veranschaulichung eine Familie mit zwei Mitgliedern gewählt: *dal* 'Lied; Vogelsang; Melodie; Art lyrisches Gedicht': *dalol* 'singen'. Der Einleitungssatz und die anschließende Erklärung lauten: „Onomatopoetische Wortfamilie mit Gliedern von ungeklärter Beziehung ⊗ Wenn das Ausgangswort *dalol* war, entstand dieses Verb mit Iterativumbildungssuffix und wurde *dal* aus *dalol* rückgebildet. Sollte *dal* das Ausgangswort gewesen sein, ist *dalol* Ableitung mit Verbumsuffix. Es ist sogar nicht auszuschließen, daß *dalol* aus der verbalen Realisation eines ursprünglichen Nomenverbs stammt, dessen nominale Realisation *dal* ist."

4.2.4. Ähnlich dem Abschnitt über die in ihrem Artikel partnerlosen Lexeme (vgl. **4.1.4.**) wird unsere Übersicht über die Wortfamilien wieder mit einem Vertreter umstrittenen Ursprungs abgerundet. Das Zitat stammt aus dem Artikel der Familie *herpites* 'schleimig': *hiripes* 'asthmatisch, hüstelnd': *hiripel* 'röcheln': *hirpitél* 'keuchen ⟨Asthmatiker⟩, röcheln': „Umstrittenen Ursprungs ⊗ 1. Wortfamilie innerer Entwicklung aus einem onomatopoetischen Stamm ...

2. Wahrscheinliches Ausgangswort der Wortfamilie, *hiripel*: Lehnwort aus einer slawischen Sprache."

5. Über die Kennzeichnung etymologischer Zusammenhänge

5.1. Die enorme Breite und die große Vielfalt der Verwandtschaftstypen zwischen den Wörtern und den Wortfamilien in der Welt der Onomatopöie würde genügend Stoff für einen weiteren Aufsatz liefern. An dieser Stelle sei lediglich die lexikographische Realisierung der Kennzeichnung solcher Zusammenhänge kurz erläutert.

Während der Erstellung des EWUng. mussten wir nicht nur auf eine möglichst genaue und umfassende Vorstellung der Zusammenhänge achten, sondern auch auf ihre übersichtliche und effiziente Darstellung (vgl. Horváth 1995; 1996).

5.2. Es wurde aus zahlreichen Beispielen in Kapitel **4.**, bei der Darstellung der Systematik der Einleitungssätze, deutlich, dass der Großteil der Artikel nur indirekte Auskünfte über den Ursprung des Grundwortes oder des fiktiven Stammes enthält, d. h. der Benutzer wird durch einen Verweispfeil auf den Artikel verwiesen, in dem eine etymologische Stellungnahme zum Grundwort oder zum Stamm erfolgt. In den Verweisformeln werden an dieser Stelle statt Wörtern und Wortfamilien lediglich Symbole verwendet, da in Kapitel **4.** bereits viele konkrete Beispiele genannt wurden.

5.2.1. Haben wir es mit einer Ableitung zu tun, deren Grundwort ins EWUng. ebenfalls als Lemma aufgenommen wurde, so ist die Lösung: „Ableitung ⊗ Aus → x". Über die Bedeutung und den (beispielsweise onomatopoetischen) Ursprung des Grundwortes wird im Artikel x Auskunft erteilt. – Ist das Grundwort kein eigenständiges Lemma, so steht bei der Ableitung: „Aus y (→ x)". Über das Grundwort y gibt also der Artikel x Auskunft.

5.2.2. Zusammenhänge zwischen Lemmata mit fiktiven Stämmen werden im EWUng. durch folgende Verweise gekennzeichnet: „Der Stamm ist mit dem von → x identisch", „Der Stamm hängt mit dem der Wortfamilien → x, → y usw. zusammen". Ist der Zusammenhang nicht sicher, müssen die Formeln natürlich modifiziert werden: „Der Stamm dürfte ... identisch sein", „Der Stamm könnte ... zusammenhängen" oder deren Kombinationen.

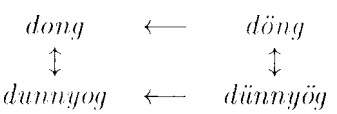
Der Ursprung des Stamms wird allerdings meist auch in den Artikeln zu den Verben angegeben. Welchen Ursprung die fiktiven Stämme von Nomina haben, erfahren wir meist nur, wenn wir den Verweisen folgen, manchmal erst nach mehreren Stufen. Für die dadurch entstehende Mühe entschädigt uns die Tatsache, dass das System der Zusammenhänge sich auf diese Weise deutlicher herauskristallisiert, als wenn jeder Artikel mit Informationen vollgestopft wäre. — Sind die Verbindungen komplex (besonders wenn die Herkunft des Stamms ungewiss ist), wird manchmal die Formel „Zum Ursprung des Stammes vgl.: → *x*" benötigt, damit der Benutzer schneller den Artikel findet, in dem die etymologische Stellungnahme bezüglich des Stammes untergebracht wurde.

Die Darstellung der Zusammenhänge zwischen den Wörtern mit relativem Stamm folgt den Schemata der Lexeme mit fiktivem Stamm.

Andere, mit der Onomatopöie nur indirekt verbundene Kategorien werden hier aus zweifachem Grund nicht erwähnt: einerseits würde die detaillierte Darstellung der Kennzeichnung von Zusammenhängen zu weit führen, zweitens stimmen ihre Formeln mit den unter **5.2.1.** und **5.2.2.** eingeführten Formeln größtenteils überein (oder können aus ihnen abgeleitet werden).

5.3. Die Effizienz zeigt sich nicht nur in der Platzierung der Informationen, sondern auch im Verzicht auf Rundverweise. Das heißt, dass im EWUng. das Netz der Verweise über eine Auswahl von Sammelpunkten organisiert ist (vgl. Horváth 1995, 452).

Im folgenden Beispiel, das das methodologische Vorgehen verdeutlichen soll, werden vier Artikel genannt, wobei alle vier Lemmata onomatopoetische Verben mit fiktivem Stamm sind: *dong* 'dröhnen; summen; sich um jmdn. zu tun machen; wispern, murmeln', *döng* 'dröhnen; summen; sich um jmdn. zu tun machen; singen', *dunnyog* 'brummen, murren; näseln; summen ⟨Insekten⟩; tief tönen', *dünnyög* 'brummen, murren; mummeln, näseln; summen; beim Flöten-, Pfeifenspiel einen summenden Nasenton von sich geben'. In den Artikeln werden die Zusammenhänge folgendermaßen gekennzeichnet: *dong*: „Der Stamm hängt mit dem von →*dunnyog* zusammen"; *döng*: „Palatale Parallelform von →*dong*. Der Stamm hängt mit dem von →*dünnyög* zusammen"; *dunnyog*: „Der Stamm hängt mit dem von →*dong* zusammen"; *dünnyög*: „Palatale Parallelform von →*dunnyog*. Der Stamm hängt mit dem von →*döng* zusammen". Durch eine Abbildung veranschaulicht:



Zwischen *dong* und *dünnyög* bzw. zwischen *döng* und *dunnyog* ist kein Querverweis notwendig, da sie durch ihre Partner verbunden sind. — Es ist außerdem bemerkenswert, dass nur die Artikel zu den palatalen Lexemen einen Verweis auf die velare Entsprechung enthalten, aber nicht umgekehrt. Die Verweise *dong* → *döng, dunnyog* → *dünnyög* sind im Registerband des EWUng. (1997, 138) zu finden.

Zwischen Wörtern und Wortfamilien können selbstverständlich auch wesentlich komplexere Verwandtschaftsbeziehungen bestehen, aber hoffentlich konnte die Struktur der Verweise bereits durch dieses relativ einfache Beispiel ausreichend demonstriert werden.

6. Ausblick und Zusammenfassung

6.1. Zum Schluss möchte ich einige Bereiche nennen, in denen die Forschung durch das bereits vorhandene Wörterbuchmaterial vorangetrieben werden könnte. Das Einfachste und Zweckmäßigste ist, wenn die Vielfalt der möglichen Forschungsrichtungen exemplarisch durch einige Fragen angedeutet wird: — Wie sind die Phonemstrukturen der onomatopoetischen Wörter? — Welche Oppositionen sind zwischen den Ableitungssuffixen erkennbar, und in welchem Zusammenhang stehen sie mit den chronologischen Fragen der Familienbildung? (vgl. Benkő 1984, 169–77.) — Welche semantischen Gruppen bilden die lautmalerischen und stimmungsmalerischen Wörter? Welche chronologischen Schichten können unterschieden werden? Wie hängt diese Frage mit der Belegbarkeit und der Familienbildung zusammen? — Wie werden laut- und stimmungsmalerische Wörter in den verschiedenen Genres und gesellschaftlichen Varietäten verwendet? Gibt es deutlich erfassbare dialektale Unterschiede in ihrer Verwendung? — Zu welchen ungarischen onomatopoetischen Wörtern existieren Entsprechungen in anderen Sprachen, die in ihrer Lautgestalt und Bedeutung ähnlich sind? Welche etymologischen Rückschlüsse erlauben solche Lexeme in den verwandten Sprachen? Kann die Rolle der Onomatopöie in den arealen Verbindungen nachgewiesen werden? — Welche Ergebnisse sind durch die Untersuchung ungarischer laut- und stimmungsmalerischer Wörter für die Sprachtypologie und die allgemeine Sprachwissenschaft zu erwarten?

Jede dieser Fragen (und natürlich auch weitere) kann auch unter statistischen Gesichtspunkten untersucht werden. Es wäre interessant zu zeigen, wie groß der Anteil der in vorliegender Arbeit vorgestellten Kategorien untereinander und im Vergleich zum Gesamtwortschatz des EWUng. ist. Noch span-

nender wäre zu wissen, mit welcher Häufigkeit die Vertreter der vorgestellten Kategorien im Sprachgebrauch vorkommen. Eine derlei Untersuchung wäre auch unter sprachhistorischem, stilistischem und soziolinguistischem Aspekt gewinnbringend.

6.2. In vorliegender Studie habe ich versucht, meine Erfahrungen als Autor von Wörterbuchartikeln zusammenzufassen. Ich hoffe, es ist mir gelungen, die Komplexität und die Vielfalt der Welt der Onomatopöie deutlich zu machen. Mein wichtigstes Anliegen war es, darauf aufmerksam zu machen: die Erklärung und Kategorisierung der Lexeme mit onomatopoetischem Bezug sowie die lexikographische Widerspiegelung der Ergebnisse ist eine Aufgabe, bei der viele Aspekte sorgfältig erwogen werden müssen, deren Ausführung Geschick und Vorsicht, Konsequenz und Flexibilität zugleich erfordert.

Ich möchte meinen Beitrag mit einem Gedanken des Herausgebers des EWUng., Loránd Benkő abschließen, der m. E. für die Forscher der Onomatopöie als Schlüssel dienen kann: „der onomatopoetische Ursprung ist in den meisten Fällen nicht identisch mit einem „aus dem nichts Werden", wie die einschlägigen Formulierungen, leider oft auch im TESz., vermuten lassen, vielmehr ist er das Weiterkeimen alter (sehr weit zurückliegender) Stämme — meist Verbstämme —, hinter ihm verbirgt sich eine spielerische Weiterformung durch Spaltung, mit etymologischen Verbindungen" (1984, 153).

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EINIGE FRAGEN DER HISTORISCHEN MORPHOLOGIE DES UNGARISCHEN AUS DER SICHT DER SPRACHGEOGRAPHIE*

DEZSŐ JUHÁSZ

Abstract

Die Differenzierung zwischen der determinierten und der indeterminierten Konjugation im Ungarischen, das heißt die Entstehung der morphologischen Mittel zum Ausdruck der Determiniertheit oder Indeterminiertheit des Akkusativobjekts, war ein langer Prozess, dessen Anfänge bis in die Zeit des Zusammenlebens der miteinander verwandten Sprachen zurückreichen und dessen Ende überwiegend auf die altungarische Zeit (10.–16. Jahrhundert) zu datieren ist. Der Großteil der diesbezüglichen sprachlichen Ereignisse ist in der Zeit vor der Landnahme (Ende des 9. Jahrhunderts) anzusiedeln, aus der es keine Sprachdenkmäler gibt, deshalb sind sie schwer zu rekonstruieren. Günstiger sieht es beim Verbalparadigma der ersten Person Plural aus, da die morphologische Differenzierung hier am spätesten abschloß und somit zahlreiche Relikte in den Dialekten auf diese sprachlichen „Experimente" hindeuten. In der Studie werden die Entstehung und die Entwicklung der Verbformen der ersten Person Plural des Indikativs und des Konditionals anhand einer bisher ungenutzten Möglichkeit, nämlich der Daten und der Methodik der Sprachgeographie, neu beleuchtet. Der Autor beschreibt anhand von „A magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte] und „A romániai magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte in Rumänien] die geographische Distribution der einzelnen morphologischen Lösungen und rekonstruiert aufgrund der Analyse der synchronen Verteilung diachrone Bewegungen bzw. Stufen. Die Analyse zeigt, dass auch die Entwicklungsgeschichte der Formen der heutigen ungarischen Umgangssprache ohne die Kenntnis der Wechselwirkungen zwischen den Dialekten im Zentrum und am Rand des Sprachgebietes nicht vollends zu verstehen ist. Die Beantwortung der noch offenen Fragen erfordert eine detailliertere Untersuchung der Sprachdenkmäler sowie weitere sprachgeographische Analysen.

1. Einleitende Bemerkungen

1.1. Bis zum Ende der altungarischen Zeit ist „A magyar nyelv történeti nyelvtana" [Historische Grammatik des Ungarischen] (= TNyt.) fertiggestellt. Die Vollendung des Gesamtwerkes erfordert noch weitere beträchtliche Anstrengungen seitens der Mitglieder der Arbeitsgruppe Grammatik. Zugleich aber kann man – das liegt in der Natur der Wissenschaft – auch die Aufarbeitung

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der bereits abgeschlossenen Epochen nicht als endgültig abgeschlossen betrachten. Man denke nur an die unzähligen interessanten Fragen, die in diesen umfangreichen Bänden offen gelassen wurden, oder an die neuen Fragestellungen, die aus den fortgesetzten Überlegungen zu den jeweiligen Problemen resultieren. Die Historische Grammatik ist schon aufgrund ihres Umfangs keine leichte Lektüre. Trotzdem wird sie nur dann zur lebendigen Wissenschaft, wenn man sie immer wieder zur Hand nimmt und einzelne Abschnitte wieder und wieder den neuen Gedankengängen und Sprachdaten gegenüberstellt. Sicherlich wird unsere Vorstellung von der altungarischen Zeit in mancherlei Hinsicht deutlich nuancierter werden, wenn wir große Mengen sprachgeschichtlichen Materials in den Computer eingeben und dann mit entsprechenden Suchprogrammen gezielte Untersuchungen durchführen können. Und unsere Skizze der urungarischen Zeit wird durch die Berücksichtigung der neuesten Ergebnisse der Finnougristik mit neuen Gesichtspunkten ergänzt werden.

Ich selbst habe in der Historischen Grammatik die Kapitel über die Konjunktionen und die Modalwörter geschrieben, doch jetzt möchte ich kurz ein anderes Teilgebiet in den Vordergrund stellen. Es handelt sich um einige Aspekte der Konjugation, und zwar aus einem besonderen Blickwinkel: dem der **Sprachgeographie** und der **historischen Dialektologie**. Ich bin nämlich davon überzeugt, dass man die Ereignisse der frühen Epochen – die wenige oder gar keine Sprachdenkmäler aufweisen – durch diese Sichtweise noch näher kennenlernen, ihre grammatikalischen Systeme noch besser erschließen, ja sogar die außersprachlichen Faktoren, insbesondere die siedlungsgeschichtlichen Bewegungen, noch besser rekonstruieren kann.

1.2. Diese Sichtweise – d. h. die Integration der Sprachgeographie in die Sprachgeschichte – hat in der internationalen Wissenschaft weit zurückreichende Traditionen und ist auch in Ungarn nicht neu. Einer der wichtigsten Beweggründe für die Entstehung der sprachgeographischen Schulen in Westeuropa war gerade das Bestreben, die ungeklärten sprachhistorischen Fragen durch die Einbeziehung neuer Gesichtspunkte zu beantworten. In Deutschland wandte sich G. Wenker Ende des 19. Jahrhunderts der Phonetik zu, in Frankreich ließ J. Gilliéron auch der Lexik und der Semantik die nötige Bedeutung zukommen. In Italien entstand auf der Grundlage der Sprachgeographie eine neue sprachwissenschaftliche Richtung, die Neolinguistik, mit M. Bartoli und G. I. Ascoli als Vorreiter. Bei ihnen ist das Bemühen, möglichst viele Aspekte der Sprachbeschreibung – einschließlich der Morphologie und der Syntax – in die historischen geolinguistischen Untersuchungen einzubeziehen. Außerdem widmeten sie der Bewertung der außersprachlichen Faktoren (Geschichte, Wirtschaft,

Kultur) größere Aufmerksamkeit als ihre Vorgänger (vgl. Serebrennikov 1986, 304–48; Bynon 1997, 160–83, 201–36; Máté 1997, 131–47, 175–89; usw.). Ich kann mir hier nicht zur Aufgabe machen, die Entwicklung der Sprachgeographie bis zu den interlingualen Untersuchungen, bis zur arealen Sprachwissenschaft zu behandeln. Ich möchte lediglich darauf hinweisen, dass sich diese Methode bis zur Mitte des 20. Jahrhunderts weltweit etabliert hat, und dass sie bei synchronen wie diachronen Forschungen häufig angewandt wird.

1.3. In Ungarn wurde der erste Versuch einer größer angelegten Untersuchung, die zugleich dialektale und sprachhistorische Merkmale berücksichtigte, in Szeged unternommen. Es handelt sich um die Arbeiten zu Antal Horgers Monographie „A magyar nyelvjárások" [Die ungarischen Dialekte] von 1934, die vor allem eine korrekte, dem Niveau der Zeit gemäße Bestandsaufnahme der ungarischen Dialekte ist, aber auch viele bemerkenswerte sprachgeschichtliche Ausführungen enthält. (Die Nachwelt hat Horger für diese Mehrarbeit zumeist keine Anerkennung zukommen lassen, da sie seine Methode für eine Vermischung der Saussureschen Synchronie und Diachronie hielt. Nun ist wohl die Zeit gekommen, sein Werk nuancierter und gerechter zu beurteilen.)

Ein deutlicherer Fortschritt aber war – trotz verschiedener anerkennenswerter früherer Versuche (denn Horger war hier nicht der einzige) — erst nach der Integration der sprachgeographischen Prinzipien sowie der Fertigstellung eines zeitgemäßen, zuverlässigen und das gesamte Sprachgebiet umfassenden Sprachatlasses zu erwarten. Hinsichtlich all dieser Anforderungen hat sich die Arbeitsgruppe von „A magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte] unvergängliche Verdienste erworben. Die Mitarbeiter haben nicht nur eine immense Datenbank von hoher Qualität erstellt, sondern auch die Theorie und Praxis der Sprachgeographie in zahlreichen Studien dargelegt und weiterentwickelt. An dieser Stelle nenne ich nur einige derjenigen Abhandlungen, in denen auch von der Möglichkeit der Nutzung des Sprachatlasses und der sprachgeographischen Methodik für die Sprachgeschichte die Rede ist: Bárczi (1954; 1964); Deme (1956); Benkő (1961; 1967a; 1967b; 1967c); Imre (1971b); usw.

Hier stehe ein auch heute zeitgemäßes Zitat von Loránd Benkő: „Obwohl die Ausweitung der sprachhistorischen Anschauungsweise und Methodik [...] bezüglich der Quellen letztendlich auch bei uns [...] zur Komplexität der Methode geführt hat, haben wir aus gewissen wissenschaftsgeschichtlichen Gründen hinsichtlich der sprachhistorischen Nutzung des sprachlichen Materials der Gegenwart keine ausreichenden Fortschritte gemacht, und die komplexe Anschauungs- und Vorgehensweise ist in diesem Bereich immer noch nicht

umfassend, nicht ganz harmonisch und proportional. Diese Einseitigkeit auf Kosten der Nutzung der Gegenwartssprache charakterisiert die durchschnittlichen sprachgeschichtlichen Forschungen, obwohl wir in letzter Zeit nicht wenige Details der Geschichte unserer Sprache gerade durch das Ausgehen von der gegenwärtigen Sprachsituation kennengelernt haben." (1967c, 49). „Ja der Wert der Synchronie der dialektalen Varianten hinsichtlich der Diachronie wird noch durch ihre räumliche Position und Bindung verstärkt, die infolge der Tatsache, dass die sprachliche **Räumlichkeit in Zeitlichkeit konvertiert** werden kann, von herausragender methodischer Bedeutung ist." (Ebd. 58, Hervorhebung des Autors: D. J.)

Auf der Sprachgeographie basierende Abhandlungen zur historischen Morphologie des Ungarischen gibt es leider wenige. Die umfassende Untersuchung des gesamten ungarischen Sprachgebietes wurde bis jetzt auch dadurch erschwert, dass der ungarische Sprachatlas nur sehr lückenhaftes Material aus Rumänien enthielt. Deshalb fehlt zum Beispiel in Samu Imres Synthese (MMNyjR. 1971a) die systematische Beschreibung dieser Gebiete. Jetzt aber, da unter der Leitung der Ungarischen Sprachwissenschaftlichen Gesellschaft endlich mit der Publikation von „A romániai magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte in Rumänien] begonnen wurde, ist das bisher größte sachliche Hindernis der einheitlichen Betrachtung des ungarischen sprachgeographischen Materials überwunden.

Im Sinne des Gesagten habe ich für diese Studie solche Themen aus der historischen Morphologie gewählt, die noch unbeantwortete Fragen enthalten, die vielfältige sprachliche Bezüge haben und deren sprachgeographische Analyse unter Berücksichtigung der Eigenheiten des gesamten ungarischen Sprachgebietes die Möglichkeit der Rekonstruktion gewisser Systemveränderungen in der späten urungarischen und der altungarischen Zeit bergen. Diese sind die Entwicklung der Verbformen der ersten Person Plural im Indikativ Präsens (**2.**) sowie im Konditional Präsens (**3.**).

2. Die Problematik der Verbformen der ersten Person Plural im Indikativ Präsens

2.1. Bevor ich zu den sprachgeographischen Aspekten komme, fasse ich kurz die Geschichte des Verbparadigmas im Indikativ zusammen, in das sich die betroffenen Suffixe einfügen, da die Entwicklung der einzelnen Morpheme nicht von der Entwicklung der übrigen Elemente des Teilsystems zu trennen ist. Die

Verbalstämme werden gemäß der Tradition durch die Verben *vár* 'warten' und *kér* 'bitten' symbolisiert (s. Anhang 1).

(a) Die Geschichte der ungarischen Konjugation – und innerhalb dieser der ersten Person Plural – hat eine umfangreiche Literatur. Die wichtigsten Stationen der Forschungen zur ersten Person Plural, die auch auf die dialektalen Aspekte eingehen, reichen von Simonyi (1913; 1916) über Melich (1914, 6–9), Horger (1931, 61–4; 1934, 152–3), Benkő (1957; 1967a; 1980, 255), Bárczi (1964; 1982, 20; 1990, 32–5), Nyíri (1973–1974, 153) bis zu Abaffy (1991a, 133, 137–41; 1992a, 186–9), der Autorin der Kapitel über die Konjugation in der Historischen Grammatik. Meine Auffassung in Fragen der Entstehungsgeschichte steht der der Historischen Grammatik am nächsten. (Aus Platzgründen kann ich die unterschiedlichen Meinungen hier nicht im einzelnen gegenüberstellen. Dies könnte das Thema einer späteren Studie sein.)

(b) Bei der Betrachtung des heutigen Konjugationsparadigmas des Indikativ Präsens fällt dem Sprachhistoriker sofort auf, dass die perfekte entstehungsgeschichtliche Ordnung bei der Pluralformen zur „Unordnung" wird. Das heißt, dass die Suffixe der determinierten Konjugation im Singular alle pronominalen Ursprungs sind und die Suffixe der indeterminierten Konjugation alle von Formanzien abstammen, während *-unk/-ünk*, das pronominalen Ursprungs ist, schon in der ersten Person Plural der indeterminierten Konjugation zu finden ist, im *-juk/-jük* der determinierten Konjugation keine Spur irgendeines pronominalen Elements vorhanden ist und lediglich das Pluralzeichen *-k* als morphematisches Antezedens zu erkennen ist. Haben sie tatsächlich „die Plätze getauscht", und wenn ja, warum? Gibt es andere Beispiele dieser Erscheinung im Paradigma? Welche Spuren früherer Zustände des Systems lassen sich in den Sprachdenkmälern oder in den Dialekten aufzeigen?

Die wichtigsten Ereignisse hinsichtlich der Entstehung der Konjugation sind zum größten Teil in der urungarischen Zeit (ca. 10. Jh. v. Chr.–10. Jh. n. Chr.) anzusiedeln. Deshalb ist es auch nicht verwunderlich, dass sich die Veränderungen hinsichtlich der ersten Person Plural ebenfalls in der Zeit vor der Landnahme (895–896) verlieren. Frühere Forschungen haben jedoch gezeigt, dass die das System bestimmenden Vorgänge gerade in der ersten der drei Personen des Pluralparadigmas als letzte abschlossen, also in die altungarische Zeit (896–1526) hineinreichen mussten und somit Relikte in den Dialekten hinterlassen haben können. Trotzdem lohnt es sich, die Geschichte des Pluralparadigmas der Chronologie entsprechend mit der dritten Person zu beginnen.

Etwa um die Mitte oder das letzte Drittel der urungarischen Zeit entstand bei den Verben im Imperativ sowie denen, deren Stamm auf *sz/v* endet, das Suffix *-nak/-nek*, das sich dann auch in der dritten Person Plural im Indika-

tiv der indeterminierten Konjugation anderer Verben durchsetzte. In diesem Teilsystem des Plurals existierten zu jener Zeit höchstwahrscheinlich einfache Proformen wie *mi várak, kérek, ti várak, kérek, ők várak, kérek* 'wir warten, bitten; ihr wartet, bittet; sie warten, bitten'. Dies ist schlicht und einfach eine mit dem Pluralzeichen „verlängerte" analytische Struktur „Pronomen + Verbalstamm", doch selbst in dieser einfachen Form, in der sie zusammen mit den Personalpronomen eine Konstruktion bildete, wird sie geeignet gewesen sein — in Opposition zu den bereits vorhandenen determinativen Suffixen —, die Verben mit indeterminiertem Akkusativobjekt zu identifizieren.

Das bedeutet, dass die im indeterminierten Paradigma entstandenen Pluralsuffixe (z.B. *-tok*, *-nak*) keine Leerstelle einnahmen, sondern an dieser Stelle schon etwas stand, und zwar die Formen der Art *mi, ti, ők várak, kérek*. Ich betone dies, weil viele der Auffassung sind, bis zur Entstehung der heutigen indeterminierten Personalsuffixe sei diese Funktion von den Elementen des determinierten Paradigmas erfüllt worden. Ich halte das für weniger wahrscheinlich, obwohl es, wie wir sehen werden, auch in der ersten Person Plural eine ähnliche zeitweise Doppelfunktion gab. Wir werden jedoch auch sehen, dass dies nur mit gutem Grund, sekundär und mit dialektaler Gültigkeit erfolgte.

Zurück zur dritten Person Plural: Mit der Eingliederung des Suffixes *-nak/-nek* verringerte sich die Zahl der homonymen Formen um eins. Ebenso verhielt es sich bei der zweiten Person Plural, wo die Übernahme der indeterminierten Funktion durch das Suffix *-tuk/-tük* ebenfalls eine ursprüngliche Struktur vom Typ *várak, kérek* ersetzt. Jedoch erscheint *vár(o)tuk, kér(ë)tük* nicht mit einer Doppelfunktion, da sie von der neuen Form *várjátuk, kérítük* von ihrem Platz verdrängt wurde. Das Neue an diesen ist bekanntermaßen, dass sie an der Morphemgrenze das aus der dritten Person Singular stammende Element *-já* (vgl. alt *várjá* > heute *várja*) integrierten, das sich aus der personalen Gebundenheit befreit hatte und der morphologischen Bekräftigung des Hinweises auf das determinierte Akkusativobjekt diente. So hätte das alte *-tuk/-tük* auch einfach verschwinden können, aber das benachbarte Paradigma konnte es gut gebrauchen.

Diese Formel hätte auch eine endgültige und zufriedenstellende Lösung für die erste Person Plural sein können: **várjánk (azt)* 'wir warten (darauf)' ⇔ *várunk (valamit)* 'wir warten (auf etwas)'. Dass dies nicht eintrat, kann mehrere Gründe haben. Der wichtigste ist wohl, dass die sprachliche „Therapie" noch einen anderen Ansatz hatte: *várok, kérëk* (mit von einem Formans abgeleitetem Suffix) in der ersten Person Singular und *várok (~ váruk), kérëk (~ kérük)* mit von einem Pluralzeichen abgeleitetem Suffix stellten eine so nahe und schwerwiegende Homonymie dar, dass die Feinheiten der Bezeichnung des

Objekts von zweitrangiger Bedeutung waren. Diese aus der Homonymie resultierende Abstoßung bewirkte einerseits, dass *várok, kérëk* der ersten Person Plural seine ursprüngliche Position verließ, und löste andererseits den Vorgang der morphologischen Differenzierung aus. Die solidere Lösung bestand darin, den Bindelaut noch geschlossener zu machen: *várok* > *váruk, kérëk* > *(kérök* >*) kérük* (durch labiale Parallelität ergänzt), die spektakulärere die morphologische Erweiterung: *váruk* > *várjuk, kérük* > *kérjük.*

Mehrere Kollegen haben richtig festgestellt (s. z. B. Benkő 1980, 253; Abaffy 1991a, 141), dass in der determinierten Konjugation die Verwendung von *-já/-i* anstelle von *j* keine glückliche Wahl gewesen wäre, da man so zu den Formen vom Typ *várják, kérik* der dritten Person Plural gekommen wäre. Einer weitverbreiteten Meinung zufolge ist dieses einfache *j* ein durch Analogie aus dem Suffix *já* entnommen, wobei der Hauptgrund die Bekräftigung des Hinweises auf das determinierte Akkusativobjekt war. Das stimmt wahrscheinlich, ist aber nur ein Teil der Wahrheit. Mindestens ebenso wichtig dürfte das Bestreben nach der Auflösung der oben genannten Homonymie (1. P. Sg. ⇔ 1. P. Pl.) gewesen sein (vgl. Benkő 1980, 251; Abaffy 1991c, 393). In diesem Fall aber läßt sich das Auftreten von *j* nicht nur mit der Analogie erklären, sondern auch mit einer in der altungarischen Zeit sehr verbreiteten Erneuerungstechnik, nämlich der Einschiebung von Bindelauten. Solche sind z. B. die aus der HB. (= *Halotti Beszéd* [Grabrede]) allgemein bekannten Formen *mundoá, házoá* 'sagte; zur Wohnstätte (Zweck)' anstelle der ursprünglicheren *mundá, házá,* und so wird auch das Suffix *-ja* der dritten Person Singular erklärt: *várá* (Homonymie mit dem Imperfekt) ⇒ *váróá* > *várojá* > *várjá* > *várja.*

Es steht außer Zweifel, dass diese Technik dort allgemein verbreitet ist, wo der ursprüngliche Endlaut über eine Diphthongstufe von einem Vokalsuffix vereinnahmt wird. Wir wissen aber, dass Stämme ohne Bindelaut auch dadurch entstehen können, dass der Stammendvokal ins Suffix übergeht. So ist es offensichtlich auch in der ersten Person Plural gewesen, d. h. nach einiger Zeit kann man von einem Morphem *-uk/-ük* sprechen, das auf die Stämme *vár* und *kér* folgt. So ist — auch wenn es auf den ersten Blick ungewöhnlich erscheint — auch eine Entwicklung **várojuk, kérëjük* > *várjuk, kérjük* nicht ausgeschlossen. Wahrscheinlicher ist hingegen, dass die Sprache gemäß der schon zuvor erprobten Technik gleich das Endergebnis, den Laut *j*, anvisierte. Die Schaffung neuer Formen war auf dieser Weise effektiver, und sie passten besser ins System als bei der Unterscheidung in Vokal endender (vollständiger) Stamm ⇔ unvollständiger Stamm. (Zu *j* s. auch Kiefer 1991, 8–12.) Meinen Standpunkt scheint auch die Tatsache zu untermauern, dass das Suffix *-ük* das *j* ebenfalls aufgenommen hat *(kérjük),* obwohl in der Reihe *kéri, kéritek, kérik* nicht mit

einer Analogie zu rechnen ist. Die Integration des *j* hat jedoch nicht in allen Dialekten stattgefunden!

2.2. Somit komme ich zum sprachgeographischen Aspekt. (Nur in Klammern sei angemerkt, dass die früheren Forscher nichts mit der abwechslungsreichen geographischen Distribution anzufangen wussten. Lediglich Benkő erwähnt in den Beispielsammlungen zweier seiner Abhandlungen mit siedlungsgeschichtlichem Bezug die archaischen Formen der Suffixe als eine sprachliche Erscheinung, die mit den Bewegungen eines Teils der Szekler und der der Tschangonen kongruiert.) Die Distribution ist der beigelegten Kartenskizze zu entnehmen.

Es gibt leider keinen ungarischen Dialekt mehr, der den Zustand der urungarischen Zeit, also die Opposition *várunk (azt)* ⇔ *váruk (valamit)* unverändert zeigt. Es gibt jedoch einen, in dem die Form *várunk* auch in der determinierten Konjugation vorkommt (*várunk azt* und *várunk valamit*). Sein Zentrum liegt im Süden Ungarns, im Komitat Baranya, er findet sich aber auch in den Sprachinseln mit *ö*-Dialekten im Norden, im Komitat Abaúj, und im Osten, bei Brassó/Kronstadt [heute rum. Braşov]. Aus der Fachliteratur ist bekannt, dass diese Sprach- und Dialektinseln im Zuge des Ausbaus der Grenzfestungen im frühen Mittelalter an strategisch wichtigen Punkten entstanden. Gemeinschaften mit *ö*-Dialekten stammten aus Südtransdanubien sowie aus dem Drau-Save-Gebiet. Teile von ihnen siedelten sich in der Gegend von Pozsony (heute slowak. Bratislava), im Komitat Udvarhely [in der Gegend des heut. rum. Odorheiu Secuiescg] und in der Gegend Hetés zu beiden Seiten der ungarisch-slowenischen Grenze an, wobei in letzterer keine Spuren des hier besprochenen morphologischen Archaismus mehr zu finden sind. Möglicherweise befand sich die Isoglosse der Strukturen vom Typ *várunk az esőt* 'wir warten auf den Regen' schon im Mittelalter in einem kleineren Gebiet als die des *ö*, d. h. es handelte sich vielleicht nicht um gemeinsam auftretende Erscheinungen.

Auch bezüglich der frühesten kleinen ungarischen Sprachdenkmäler (12.–13. Jahrhundert) kann man sagen, dass mehrere ihrer Merkmale auf Transdanubien hindeuten. Aufgrund ihres nicht sehr ausgeprägten *ö*-Dialekts kann man sie auch mit der südwestlichen Region in Verbindung bringen, sie können jedoch nicht aus der Gegend mit Zentrum Baranya stammen (s. hierzu auch Benkő 1980, 255). Sie können auch nicht zur nördlichen (sogenannten palozischen) oder zur mittelsiebenbürgischen (sogenannten Mezőség-) — im allgemeinen der östlichen — Region gehören, denn dort sind zum Teil bis heute die Formen ohne *j*, *váruk, kérük*, verbreitet, was im Mittelalter noch stärker der Fall war (s. dagegen HB.: *tumetívc (= tümetjük)* 'wir beerdigen (ihn/sie)', „Königsbergi Töredék" [Königsberger Fragment]: *Tudýuc (= tudjuk)* 'wir wis-

sen (es)', *latíuc (= látjuk)* 'wir sehen (es)' usw.). In der nördlichen Region kommt diese Erscheinung noch großenteils in Blöcken vor, anderswo in Inseln, s. z. B. MNyA. 311. unter *kiszedjük*, 893. *nyomjuk* usw.: *kiszëdük, nyomuk*. In der Gegend Mezőség in Siebenbürgen, wo im Mittelalter eines der Zentren der Suffixe ohne *j* war, finden sich heute keine Spuren des ursprünglichen Zustands mehr. Genauer gesagt belegen die bekannten Migrationen (s. dazu zuletzt Juhász 1997, 205) genau meine Annahme: in Köröstárkány [heute rum. Tărcaia], Domokos [heute rum. Dămăcuş], Lozsád [heute rum. Jeledinţi] und bei den Moldauer Tschangonen sind die altertümlichen Formen erhalten geblieben. S. z. B. in „A moldvai csángó nyelvjárás atlasza" [Atlas des Moldauer Tschangodialekts] die Daten von Ploszkucény [heute rum. Ploscuţeni], das aus der Gegend von Szabófalva [rum. Săbăuani], Kelgyest [rum. Pildeşti] und Bákó [rum. Bacău] besiedelt wurde, unter dem Eintrag 372. *gyűjtjük (a szénát)* 'wir sammeln (das Heu)': *gyütük*; und in RMNyA. unter Eintrag 24. *vetjük (az árpát)* 'wir säen (die Gerste)', 37. *kiássuk (a burgonyát)* 'wir graben (die Kartoffeln) aus', 197. *kaszáljuk* 'wir mähen (es)' und 1073. *fúrjuk* 'wir bohren (es)': *vetük, kiásuk, kaszáluk, furuk*.

Die Archaismen werden, ob sie nun in Blöcken oder in Inseln auftreten, immer seltener. Ein Zeichen dafür ist, dass die altertümlichen Formen an den Rändern der Blöcke in weniger Lexemen verwendet werden. Ein anderes auffälliges Zeichen ist, dass in den Inseln und an den Rändern der Blöcke gemischte Formen entstehen, die sich an das Paradigma mit *-juk/-jük* angleichen. Das gilt für das auf Analogie basierende Eindringen des *j* in Formen vom Typ *várunk azt* in Magyarbőd [heute slowak. Bidovce] und Csernakeresztúr [heute rum. Cristur], weiterhin im südlichen Streifen des Blocks mit Zentrum Baranya: *várjunk*. (Vorsicht, dies ist kein Imperativ!)

Die Form vom Typ *várjuk azt* in determinierter Konjugation kann vielleicht schon in einigen Dialekten der landnehmenden Ungarn vorhanden gewesen sein. Sie breitete sich jedoch als eine vom zentralen Sprachgebiet ausgehende Neuerung aus, die immer größere Gebiete eroberte. Neben der konzentrischen Verbreitung ist auch eine Bewegung von Westen nach Osten anzunehmen, wobei die Gegend Mezőség auch von Osten her unter dem Einfluss der *-juk/-jük*-Formen der Szekler stand. (Bei den Szeklern wiederum handelt es sich um eine Eigenheit, die sie aus der westungarischen Region mitgebracht haben.)

Über das Gesagte hinaus birgt auch die sprachgeographische Problematik der auf *t* endenden Verben noch viele interessante Details, sowie der Vergleich der heutigen Dialektsituation mit den Erkenntnissen aus den Sprachdenkmälern. Das erste handgeschriebene ungarische Buch, der im 14. Jahrhundert geschriebene und in einer Kopie aus dem 15. Jahrhundert erhaltene Jókai-Kodex,

dürfte die nördlichen Züge tragen, was z. B. dadurch belegt wird, dass darin neben den *-juk/-jük*-Formen auch solche ohne *j* vorkommt: 2: *Oluafuk (=olvasuk)* 'wir lesen (es)'. (Dies wäre jedoch das Thema einer gesonderten Arbeit.)

3. Die Problematik der Verbformen der ersten Person Plural im Präsens Konditional

3.1. Bevor ich zu den Verben der ersten Person Plural im Präsens Konditional komme, fasse ich kurz die wichtigsten Erkenntnisse aus dem vorangehenden Abschnitt zusammen, da die Formen des Indikativ und des Konditionals sich nicht unabhängig von einander entwickelt haben.

Während die Personalendungen der determinierten und der indeterminierten Konjugation im Singular eine regelmäßige Verteilung aufweisen – indem die ersteren aus Personalpronomen, die letzteren aus Formanzien abgeleitet sind (*várom, várod, várja* ⇔ *várok, vársz* bzw. *hízol* 'du nimmst zu') –, haben sich im Plural deutliche, aber nicht bis ins letzte Detail erforschte Umstrukturierungen vollzogen. Ein Endprodukt dieser Vorgänge ist in der ersten Person Plural zu sehen, wo im Gegensatz zum Singular das *-unk/-ünk*, das pronominalen Ursprungs ist, in der allgemeinen Konjugation und das auf dem einfachen Pluralzeichen basierende *-juk/-jük* in der determinierten Konjugation vorkommt: *várunk, kérünk (valamit)* 'wir warten auf, wir bitten um (etwas)' ⇔ *várjuk, kérjük (azt)* 'wir warten auf, wir bitten um (es)'. Dieser Platztausch, der als einer der letzten gegen Ende der urungarischen Zeit stattfand, wurde durch Bewegungen vorbereitet, wie es z. B. die der benachbarten zweiten Person Plural war. Bei dieser wechselte das ursprünglich ebenfalls auf ein determiniertes Akkusativobjekt hinweisende *-tok/-tek/-tök* in die indeterminierte Konjugation, da in seiner ursprünglichen Position eine mit dem Element *-já/-i* erweiterte Form entstanden war, die den Erfordernissen der determinierten Konjugation besser genügte („transparenter" war): *várjátok, kéritek*. Die Personalsuffixe pronominalen Ursprungs, die aus dem determinierten Paradigma überwechselten, behebten in der indeterminierten Konjugation wahrscheinlich ein sehr einfaches Paradigma, das lediglich das Pluralzeichen und Strukturen wie die folgenden enthielt: **mi váruk (~ várok), *ti váruk (~ várok), *ők váruk (~ várok) valamit* 'wir warten, ihr wartet, sie warten auf etwas'. Die Spuren dieser Erscheinung sind nur in einigen archaischen ungarischen Dialekten erhalten. Die Morpheme *-uk/-ük* und *-juk/-jük* gehören heute zur determinierten Konjugation, es gibt jedoch Dialekte – vor allem innerhalb der südtransdanubischen *ö*-Dialekte –,

in denen auch die determinierte Konjugation das Suffix *-unk/-ünk* verwendet: *kiszedünk a burgonyát, leverünk a diót* 'wir nehmen die Kartoffeln heraus, wir schlagen die Walnüsse herunter' usw. Dieser Typ verbreitete sich – vermutlich mit den Aussiedlungen im Mittelalter auch im Bereich der nördlichen und östlichen Grenzgebiete sowie mehrerer Dialektinseln.

Die Entwicklung *-uk/-ük* > *-juk/-jük*, also das Auftreten des Elements *j*, führe ich im Gegensatz zu den meisten früheren Forschern auf zwei Gründe zurück. Der eine ist die Analogie zu dem auch in den Suffixen *-játok* und *-ják* vorhandenen *j* (ursprünglich zum Füllen des Hiatus), die den Ausdruck der determinierten Konjugation verstärkt. Der andere, nicht weniger wichtige ist die Auflösung der grammatikalischen Homonymie, die zwischen *mi váruk* ~ *várok* der ersten Person Plural und *én várok* ~ *váruk* der ersten Person Singular bestand (ähnliches s. schon bei Benkő 1980, 251 und Abaffy 1991c, 392-3).

3.2. Wenn wir uns nun dem Paradigma des Präsens Konditional zuwenden, können wir mehrere frühere Erfahrungen nutzen.

(a) Als erstes die, dass die erste Person Plural – wie im Indikativ – hinsichtlich der Dialekte am stärksten gegliedert und am abwechslungsreichsten ist. Aufgrund dessen kann man vielleicht auch jetzt die Annahme wagen, die in bezug auf den Indikativ auch in der Historischen Grammatik erwähnt wird, nämlich dass die erste Person Plural seine Entwicklung wahrscheinlich am spätesten abschloß.

(b) Die nächste allgemeine Parallele besteht darin, dass man in beiden Formen dialektale Typen aufzeigen kann, die die determinierte und die indeterminierte Konjugation unterscheiden oder aber gerade nicht unterscheiden. Die ungarische Umgangssprache gehört hinsichtlich des Indikativ zum ersten Typ *(várunk ⇔ várjuk)*, hinsichtlich des Konditionals eher zum nicht differenzierenden Typ *(várnánk valamit = várnánk azt)*, da die determinierte Form *várnók, kérnők* altertümlich und literarisch und somit im Grunde ungebräuchlich ist. In der gehobenen Umgangs- und Literatursprache Siebenbürgens aber ist sie noch vorhanden.

(c) Neben Formen wie *várnók* und *kérnők* mit dem Alternanten *-nó/-nő* gibt es jedoch eine noch ältere determinative Form, *várnuk, kérnük (azt)*, die in mehrerlei Hinsicht an das dialektale *váruk, kérük* des Indikativ erinnert. Heute enden beide in dem Suffix *-uk/-ük*, so dass die Morphemstruktur von *várnuk* so aussieht: Verbalstamm *vár-*, *kér-* + Modalzeichen *-n* + Personalsuffix *-uk/-ük* der ersten Person Plural. Bei der historischen Analyse – beispielsweise in der späten urungarischen Zeit – ist der Vokal vor *-k* natürlich als Teil des Stammes zu betrachten, so dass die Gliederung nun folgendermaßen aussieht: (vollstän-

diger) Stamm *váru-*, *kérü-* + Modalzeichen *-nu/-nü* + (aus dem Pluralzeichen abgeleitetes) Personalsuffix *-k*. (Der Endvokal des absoluten Stammes geht durch regulären Ausfall verloren: **várunuk* > *várnuk*.)

3.3. Bis zur Veröffentlichung der Historischen Grammatik war die bekannteste Erklärung in der ungarischen Sprachwissenschaft, dass das Modalzeichen *-ná/-né* aus der Verbindung des Formans *-n* für momentane Verben mit dem Formans des Partizip Präsens (eventuell dem Zeichen *-á/-é* des Imperfekt) abzuleiten sei (s. z. B. Bárczi Benkő Berrár 1967, 414; Bárczi 1982, 85–6). Mit der genaueren Erforschung der uralisch-finnougrischen Antezedenzien hat sich diese Auffassung geändert. Péter Hajdú hat in seinen Lehrbüchern zur Uralistik (BUNy. 71, 136–8; UNyA. 153–4) nach der Analyse der Entsprechungen in den verwandten Sprachen ein Modalzeichen PU **-nek* rekonstruiert.

In den letzten Jahrzehnten hat sich aber sowohl die Meinung der ungarischen Sprachhistoriker als auch die der Uralisten und Finnougristen in dieser Frage geändert, und die Standpunkte haben sich einander angenähert. Den neuen Standpunkt der ungarischen Sprachgeschichte fasst Abaffy in TNyt. zusammen (I, 105–6), den der Uralistik Bereczki in seinem Handbuch (1996, 86–7). Erstere steht vor allem Bárczi (1982) nahe, letzterer Hajdú (1973; 1981) und Rédei (1991).

In Péter Hajdús Büchern stand noch zu lesen, das uralische Antezedens des ungarischen Modalzeichens sei ein Morphem **-nek*, dessen „auslautendes Element **-k* sicherlich mit dem **-k* des Imperativ identisch" sei (BUNy. 136). Die meisten angeführten Parallelen aus den verwandten Sprachen lassen jedoch nur auf *-n* + kurzer Vokal (am ehesten *e*) schließen. Die vereinzelten Gegenbeispiele längerer Elemente — unter ihnen das ungarische und das wogulische — deuten auf eine interne Ergänzung in der jeweiligen Sprache hin. Diese Erkenntnis, die auch in TNyt. und in Bereczkis überarbeitetem Lehrbuch ihren Niederschlag findet (a. a. O. 86), ist deshalb wesentlich, weil man von dieser ausgehend für den Beginn der urungarischen Zeit noch ein einfacheres Morphem **-ne* ⇒ (mit Harmonie) **-na/*-ne* rekonstruieren kann. Abaffy spricht sehr vorsichtig nur von *-n* + Vokal, da sie aber als Ergebnis des Ergänzungsprozesses **-n͡ai/*-n͡ei* annimmt, dachte sie in erster Linie wohl auch an *a* und *e* nach dem *n*. Die diesbezügliche Stelle lautet: „Dem Modalzeichen **-n* + Vokal uralischen Ursprungs wurde vermutlich schon zu Beginn der urungarischen Zeit ein weiteres Element hinzugefügt. Nach der wahrscheinlichsten Annahme ist dieses Element mit dem Zeichen **-i̯* der Vergangenheit identisch. Die Entwicklung der beiden Formanzien, des Modalzeichens und des Tempuszeichens, verlief nämlich in der gesamten Geschichte des Ungarischen auffallend, ja fast

vollständig, parallel. Das Zeichen des Konditionals dürfte also *-*naj*/*-*nej* gewesen sein." (TNyt. I, 105)

Mit ihrer Hypothese — ebenso wie mit ihrer Argumentation (die ich hier nicht mehr zitiere) zur Begründung der Anfügung des Zeichens *-*j* der Vergangenheit — stimme ich grundlegend überein, zur Lösung unseres Problems erachte ich jedoch einige Ergänzungen und Berichtigungen für notwendig.

Die erste ist, dass das überlieferte Modalzeichen — so läßt sich aus den verwandten Sprachen schließen — schon vor der selbständigen Existenz des Ungarischen über die Grundfunktionen (Bedingtheit, Möglichkeit, Wunsch usw.) verfügte, durch die es seine grammatikalische Aufgabe (Modus) auch ohne die weitere morphologische Ergänzung der Verbform erfüllen konnte. Deshalb bin ich der Meinung, dass die Ergänzung durch das Zeichen *-*j* der Vergangenheit nicht notwendigerweise zu Beginn der urungarischen Zeit erfolgt sein muss. Es kann sogar sein, dass sich dieser Prozess in einzelnen Teilen des Volkes oder in Stammesdialekten hinausgezogen hat bzw. nicht in allen Elementen des Paradigmas erfolgte. Gewisse Anzeichen deuten nämlich darauf hin, dass einige Dialekte bei der großangelegten Aktion der Unterscheidung zwischen determinierter und indeterminierter Konjugation auch sprachliche Bausteine verwendeten, deren „archäologische" Analyse die altertümlichere Struktur *-*n* + (kurzer) Vokal ergibt, von der eben die Rede war.

Meine zweite Bemerkung folgt aus dem oben Gesagten. Wenn die heutigen Daten der Dialekte in einem relativ großen Gebiet Veränderungen aufweisen, die Unterschiede von systematischer Bedeutung widerspiegeln, sollte man diese auch bei der Darstellung des Sprachzustandes der urungarischen und der altungarischen Zeit berücksichtigen und deutlich machen, dass der damalige Sprachgebrauch wahrscheinlich nicht einheitlich war. Das heißt, in bestimmten Sprachvarianten der zweiten Hälfte der urungarischen Zeit gab es Versuche, ebenso wie im Indikativ auch die determinierte und die indeterminierte Konjugation der ersten Person Plural des Konditionals morphologisch zu unterscheiden. Dazu bot sich die „Rettung" einer bis dahin sicher schon veralteten grammatikalischen Form an, in der sowohl das Modalzeichen (*-n* + kurzer Vokal) als auch das Personalsuffix *(-k)* in seiner einfachsten Form vorkam. Die wirklich ursprüngliche Form **vár(a)-na-k*, **kér(e)-ne-k* konnte jedoch nicht beibehalten werden, da sie mit der ebenfalls zu dieser Zeit entstehenden indeterminierten Form der dritten Person Plural des Indikativ identisch gewesen wäre. Indem aber der zum *-n* gehörende Vokal geschlossener und labialisiert wurde, war die Gefahr der Homonymie beseitigt. Das so entstandene *várnuk, kérnük* in Opposition zu *várnánk, kérnénk* (und parallel zu *váruk, kérük* ⇔

várunk, kérünk des Indikativ) war eine gelungene Lösung der Aufgabe, die Bezeichnung des Objekts zu präzisieren.

3.4. Zu diesem Schluss kam ich allerdings erst später, und zwar nachdem ich in den Besitz der **sprachgeographischen** Daten über das gesamte Karpatenbecken gelangt war. Vor allem aus dem eingehenden Studium der beiden großen Atlanten, „A magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte] und „A romániai magyar nyelvjárások atlasza" [Atlas der ungarischen Dialekte in Rumänien] ersteht ein Bild der Dialekte, welches zeigt, dass die Entwicklungen der Indikativformen vom Typ *váruk, kérük* und der Konditionalformen vom Typ *várnuk, kérnük* unzertrennbar miteinander verbunden sind, da sie etwa in derselben Region anzusiedeln bzw. für den Anfang der altungarischen Zeit in denselben Gegenden rekonstruierbar sind.

(a) Die Situation der Formen *váruk* und *kérük* zeigt mein erster Kartenanhang, die des Typs *várnuk, kérnük* meine zweite zusammenfassende Karte, auf der ich anhand von je zwei Blättern der großen Atlanten die Verbreitung der Formen der determinierten Konjugation darstelle (MNyA. 812. *vinnénk* [= vinnők azt] 'wir trügen es', 866. *kötnénk* [= kötnők azt] 'wir bänden es'; RMNyA. 1095. *sepernők* 'wir fegten es', 1391. *néznők* 'wir betrachteten es'). Am stärksten ist *váruk, kérük* in den palozischen Dialekten vertreten: Mit Ausnahme des westpalozischen ist es in allen Subtypen nachzuweisen, in den meisten Wörtern kommt es aber in dem innen gelegenen, geschützten mittleren palozischen Dialekt vor. Von den vier Sammelpunkten in der Karpatoukraine wurde es an einem, in Csongor [heute ukrain. Tschomonin] (Szu[1]-2), registriert. Das heißt, dass ein früheres Vorhandensein angenommen werden kann, das Aussterben aber weit fortgeschritten ist. In der Gegend Mezőség in Siebenbürgen fanden die Forscher keine Formen dieser Art, obwohl sie hier für das Mittelalter eindeutig rekonstruierbar sind, denn in den Sprachinseln, deren Bevölkerung ursprünglich von hier stammte, in Lozsád, Köröstárkány, Domokos, im moldautschangonischen Szabófalva, in Bogdánfalva [heute rum. Valea Seacă], existieren diese Formen. Man kann mit Recht annehmen, dass die zentralen Regionen des Karpatenbeckens ebenfalls von einer Bevölkerung mit diesem Dialekt bewohnt waren, da das heutige *-juk/-jük* ebenfalls direkt aus diesem Typ abzuleiten ist. Die mit *j* erweiterten Formen haben durch ihre konzentrische Ausbreitung die ohne *j* in die Randgebiete zurückgedrängt

[1] Ungarische Abkürzung für Sowjetunion, entsprechend der politischen Verhältnisse zur Zeit der Sammelarbeit.

und auch den „ungeteilten" Typ in Südtransdanubien (*várunk azt/valamit* 'wir warten auf es/etwas') nicht verdrängt.

(b) Die Realisationen von *várnuk, kérnük* in der ersten Person Plural des Konditionals haben etwas andere Schwerpunkte, stellen aber keinen Widerspruch zu der oben rekonstruierten Situation dar, sondern sind eher als Ergänzung derselben zu verstehen. Das Hauptzentrum dieses Typs ist heute die Gegend Mezőség in Siebenbürgen, mit Varianten mit *-nó/-nő* alternierend kommt er aber beispielsweise auch in den Gegenden Kalotaszeg [heute Rumänien, westlich von Klausenburg], Szilágyság [heute Rumänien, nördlich von Şimleu Silvaniei] und entlang des Flusses Szamos [rum. Someş] vor. Verläßt man Siebenbürgen in Richtung Westen, zeigt sich, dass er in den palozischen Dialekten nur in Spuren vorhanden ist (Cssz[2]-2: Vága [heute slowak. Váhovce], Cssz-22: Tornagörgő [heute slowak. Hrhov]), in dem im Komitat Szabolcs-Szatmár gelegenen Teil des nordöstlichen Dialektgebiets hingegen noch eine beträchtliche Verbreitung aufweist (z. B. O-13, 14, P-6, 7). In Csongor findet sich die Form *vinnük* 'wir brächten', *kötnük* 'wir bänden' — ein Archaismus wie im Falle des Indikativ. Das Zentrum hat sich also aus dem Palozenland in die Gegend Mezőség verlagert, doch auch so erstreckt sich das Verbreitungsgebiet von dem im nordwestlichen Zipfel des Karpatenbeckens gelegenen Vága bis zum moldauischen Szabófalva.

(c) Diese große Verbreitung ist trotz der Lücken in dem genannten Gebiet von außerordentlicher sprachgeographischer, systematischer und chronologischer Bedeutung, vor allem hinsichtlich der Klärung des Verhältnisses der Wortendungen *-nók/-nők* und *-nuk/-nük* zueinander. Die bisherigen Erklärungen (z. B. Horger 1931, 115) und zum Teil auch die Historische Grammatik (TNyt. II/1, 137) leiteten die Morphemengruppe *-nuk/-nük* (d. h. Zeichen + Suffix) durch zunehmende Geschlossenheit und Verkürzung aus *-nók/-nők* ab. Diese Annahme scheint auch die Chronologie der erhaltenen Daten zu belegen: Während sich für *-nók/-nők* in mehreren ungarischen Kodizes Beispiele finden, stammt der erste Beleg für *-nuk/-nük* aus der zweiten Hälfte des 16. Jahrhunderts. (Es ist charakteristisch, dass die in TNyt. zitierten Autoren, Gáspár Károli und Péter Bornemisza, der nördlichen und nordöstlichen Region des Sprachraumes zuzuordnen sind.) Für die endgültige Klärung dieser Frage müssen weitere Daten gesammelt werden. Doch bis dahin bietet die These der Neolinguistik einen Anhaltspunkt, laut welcher eine weiter verbreitete Erscheinung praktisch immer eine längere Geschichte hat. Ergänzt man

[2] Ungarische Abkürzung für Tschechoslowakei, entsprechend der politischen Verhältnisse zur Zeit der Sammelarbeit.

diese These mit der Regelmäßigkeit bezüglich der isolierten und der Randgebiete, wird unsere Hypothese erneut untermauert. Wenn man also die am stärksten isolierten und an der äußeren Peripherie gelegenen Sammelpunkte untersucht, so findet man dort – naturgemäß – viel eher archaische als neologe sprachliche Formen. In dem hier besprochenen Fall sind solche Sammelpunkte Vága und Tornagörgő im Palozenland, Csongor in der Karpatoukraine, das nordtschangonische Szabófalva und zum Teil Lozsád und Oltszakadát [heute rum. Săcădate], die von kleineren Schwankungen abgesehen nicht die Endung *-nók/-nők*, sondern *-nuk/-nük* aufweisen. Am typischsten ist *-nók/-nők* im Szeklerland sowie im Übergangsgebiet zwischen Mezőség und der Großen Ungarischen Tiefebene.

(d) Nun stellt sich natürlich die Frage, wie *-nók/-nők* entstanden ist, wenn es in Relation zu *-nuk/-nük* sekundär ist. Das stelle ich mir auch in diesem Fall als Ergebnis des Zusammenwirkens verschiedener Faktoren vor. Ich will die Rolle des Partizip Präsens bei der Bildung des Präteritum und mittelbar bei der Entwicklung des Modalzeichens für das Konditional nicht ausschließen. Ich neige jedoch eher zu der Annahme, welche Erzsébet Abaffy in der Historischen Grammatik folgendermaßen formuliert: „... im Vokal von *-nók/-nők* kann man auch ein anderes Formans als das in *-ná/-né* annehmen (das mit dem Tempuszeichen *-ó/-ő* identisch wäre), doch handelt es sich möglicherweise lediglich um eine Analogie: Die Personalsuffixe der ersten Person Plural der determinierten Konjugation, die [d.h. deren Vokale – D.J.] in allen anderen Paradigmen labial sind, könnten aufgrund des Einflusses von *-ok/-ök* und *-uk/-ük* eine labiale Variante und unter Beibehaltung der ursprünglichen Länge eine Variante *-nók/-nők* gehabt haben." (TNyt. II/1, 137). Ich füge dem hinzu, dass von den eben genannten Formen auf *-uk/-ük (~ -ok/-ök)* selbstverständlich die bisher wenig beachteten *tudnuk* und *kérnük* die stärkste analoge Wirkung gehabt haben dürften, da sie der Morphemengruppe *-nánk/-nénk* in systematischer Hinsicht am nächsten stehen. Weiterhin ist es kein Zufall, die Mehrzahl der Siedlungen, in denen *-nók/-nők* vorkommt, östlich und westlich der Gegend Mezőség liegen, dort, wo die ursprünglicheren Endungen *-nuk/-nük* am ehesten analogisch gewirkt haben können.

All dies kann an sich schon eine Erklärung für die Entstehung von *-nók/-nők* darstellen, doch möchte ich noch eine Möglichkeit hinzufügen. Ich habe schon in Teil **2.** erwähnt, dass das Einfügen eines Bindevokals in der altungarischen Zeit eine der häufigsten Arten der Beseitigung von Homonymien ist (s. z. B. *látá* > *látoá* [> *látojá* > *látjá* > *látja*], HB.: *mundá* > *mundoá, terömté* > *terömtevé, házá* > *házoá*), die auch bei der Entstehung des Suffixes *-juk/-jük* der ersten Person Plural eine Rolle gespielt haben kann. Wenn man nämlich

das *j* am Anfang des Suffixes im Sinne seiner natürlicheren Rolle als Mittel zur Beseitigung eines Hiatus auffasst, kann man die Form *látjuk* als **látojuk* ~ **látujuk* rekonstruieren. Dies wiederum kann man auch so interpretieren, dass die Homonymie mit *látok* ~ *látuk* der ersten Person Singular durch das Einfügen eines Bindevokals *(láto + uk)* und dann die Ausfüllung des Hiatus *(látojuk)* sowie den regelrechten Wegfall des Vokals *(látjuk)* beseitigt wurde. (Die Einfügung des Bindevokals und die Beseitigung des Hiatus können auch gleichzeitig erfolgt sein.)

Akzeptiert man diese auf den ersten Blick merkwürdig erscheinende Methode, für die es aber in der historischen Morphologie zahlreiche Beispiele gibt, als realistisch, so ist mit ihrer – etwas modifizierten – Anwendung auch bei der Entstehung von *-nók/-nők* zu rechnen. Demgemäß ist nach dem Muster des oben Gesagten folgende Entwicklung möglich: *látnuk* > Einfügung des Bindevokals **látnauk* ~ *látnouk*, dann anstelle der Beseitigung des Hiatus (**látnajuk* ~ **látnojuk*) die Verschmelzung der benachbarten Vokale zu einer Silbe und die Entstehung eines Diphthongs **látnou̯k* > **látnou̯k* > *látnók* bzw. **kérneü̯k* > **kérnöü̯k* > *kérnők*. Dass dies keine reine Fiktion ist, läßt sich mit Dialekten an den Rändern der südwestlichen Regionen belegen, die Hinweise auf eine ähnliche Lauteinfügung enthalten, die nun benachbarten Vokale jedoch nicht verschmolzen, sondern durch die Beseitigung des Hiatus von einander trennten. Ich habe im Dialekt von Hetés diesbezügliche Beispiele gefunden. Im Sprachatlas ist Hetés mit Bödeháza vertreten (B-28), und dort ist die archaische Aussprache von *vinnénk (azt)*: *vinnejök* (812.), die von *kötnénk*: *kötnejök* (866.). In „Őrségi és hetési nyelvatlasz" [Sprachatlas von Őrség und Hetés] von József Végh finden sich außer für Bödeháza auch für Gáborjánháza und teilweise für Szíjártóháza Angaben dieser Art: *rángvënnejök* (147), *mëgmondonájok* (151) *mëgvárnájok* (154). In den beiden letzteren hat die Analogie des Modalzeichens *-ná* die Aussprache der vermuteten früheren **mëgmondonajok* und **mëgvárnajok* verlängert. Diese Analogie kommt bei den Wörtern mit palataler Lautfolge noch nicht zur Geltung (*vinnejök, kötnejök*). Beachtenswert ist auch, dass der Dialekt von Hetés ähnlich wie die siebenbürgischen Dialekte hinsichtlich der ersten Person Plural des Konditionals zu denen gehört, welche die Formen unterscheiden, und sich dadurch deutlich von seiner Umgebung abhebt (z. B. *Várnánk ëgy kis esőt.* ⇔ *Mëgvárnájok az esőt.* [indeterm. ⇔ determ.]). Sein morphologisches System ist – einschließlich des Konditionalparadigmas — außerordentlich vielfältig und individuell, weshalb es einer gesonderten Untersuchung bedarf.

(e) Und nun zurück zu den sprachgeographischen Aspekten von *-nók/-nők*. Es bedarf weiterer Untersuchungen, um festzustellen, welche geographischen

und chronologischen Umstände mit Hilfe der Sprachdenkmäler zu ermitteln sind. Man braucht möglichst viele datierbare und lokalisierbare Daten, außer aus den Kodizes z. B. aus alten ungarischen Briefen und anderen weltlichen Sprachdokumenten. Von Nutzen wären auch mit dem Computer erstellte Konkordanzen, die sich nicht mit der alphabetischen Auflistung der Wörter begnügen, sondern die grammatikalischen Informationen in kodierter Form enthalten, so dass auch die Daten zu den Paradigmen des Konditionals abgefragt werden könnten. Ich erwarte zum Beispiel sehr viel von den computerisierten Kodexforschungen der Universität Debrecen, denn die diesbezüglichen Feststellungen von TNyt. sind notwendigerweise nicht präzise genug. Die ersten Belege für *-nók/-nők* stammen aus dem *Bécsi Kódex* (um 1416/1450), außerdem zitiert die Historische Grammatik Beispiele aus dem *Érdy-kódex* (1524–1527) und dem *Bod-kódex* (um 1520). Die sporadischen Daten lassen lediglich den Schluss zu, dass das Formans in der altungarischen Zeit nicht nur für den östlichen, sondern auch für den nördlichen und westlichen Teil des Sprachgebietes anzunehmen ist.

(f) Weiter untersucht werden muss auch, wie sich die Formen des Modalzeichens mit labialisiertem Vokal in der indeterminierten Konjugation verbreitet haben, also wie im ersten Teil der Opposition *sepernénk* ⇔ *sepernők (~ sepernük)* in einigen Dialekten vor dem Personalsuffix *-nk* das *ő* ~ *ü*: *sepernőnk* ~ *sepernünk* entstanden ist. Ohne auf die Details einzugehen, kann ich hier nur sagen, dass *sepernünk* 'sepernénk' sich dort verbreitete (bzw. zu verbreiten begann), wo *sepernük* 'sepernők' bereits vorhanden war, und dass *sepernőnk* dort Fuß gefasst hat, wo sich *sepernők* bereits etabliert hatte (s. z. B. RMNyA. 1094.).

(g) Der Untersuchung wert ist auch das Verhältnis der mit dem determinierten Akkusativobjekt stehenden alten ungarischen Formen des Imperfekt *várók, kérők (azt)* zu den Formen mit *-nók/-nők*. Inwieweit ist z. B. die Meinung zu berichtigen oder zu präzisieren, die Rédei in Kürze so zusammenfasst: „Ich meine, dass [...in den Formen *várók, kérők* des Imperfekts und den Formen *várnók, kérnők* des Konditionals] das Partizipialformans *-ó/-ő* (< **-k*) enthalten ist. Die Entsprechungen aus den verwandten Sprachen sprechen dafür, dass *-k* ursprünglich ein Partizipialformans mit imperfektiver-perfektiver Funktion war. Das Eindringen von *-ó/-ő* (< **-k*) in das Paradigma war durch die Unterscheidung zu den Formen *várák, nézék, várnák, néznék* der dritten Person Plural der determinierten Konjugation begründet" (Rédei 1996, 137). Gibt es über die Verbindung hinsichtlich des Ursprungs hinaus auch geographische, sprachgeographische Zusammenhänge? (Vgl. z. B. Temesi 1969, 11–2).

(h) Es empfiehlt sich auch, die historische Analyse und die Lesart der konditionalen Verbformen in den frühesten ungarischen Textdokumenten und Kodizes neu zu überdenken. Dies gilt z. B. für die diphthongische Realisation des Vokals des Modalzeichens (z. B. HB.: *eneẏc*, Königsberger Fragment *lelhetneẏnc*) sowie die korrekte Emendation des falsch geschriebenen Wortes *ualmun* aus „Ómagyar Mária-siralom" [Altungarische Marienklage]. Bei letzterem könnte — sofern man das Auftreten des einfacheren Modalzeichens mit der Form *-n* + kurzer Vokal als Relikt nicht ausschließt – z. B. die Frage eines schwer zu interpretierenden Schreibfehlers geklärt werden, denn man könnte über die allgemein bekannte Vertauschung *n* ⇒ *m (ualnum* ⇒ *ualmun)* hinaus die Schreibung des Vokals in der letzten Silbe als regulär akzeptieren (statt die konjugierte Form des Infinitivs oder die hypothetische Form *ualnam (= válnám)* zu forcieren). Dies beträfe jedoch schon die erste Person Singular und kann nicht in die Geschichte der Opposition der Formen der determinierten und der indeterminierten Konjugation einbezogen werden, da das Verb *válik* 'zu etwas werden' intransitiv ist.

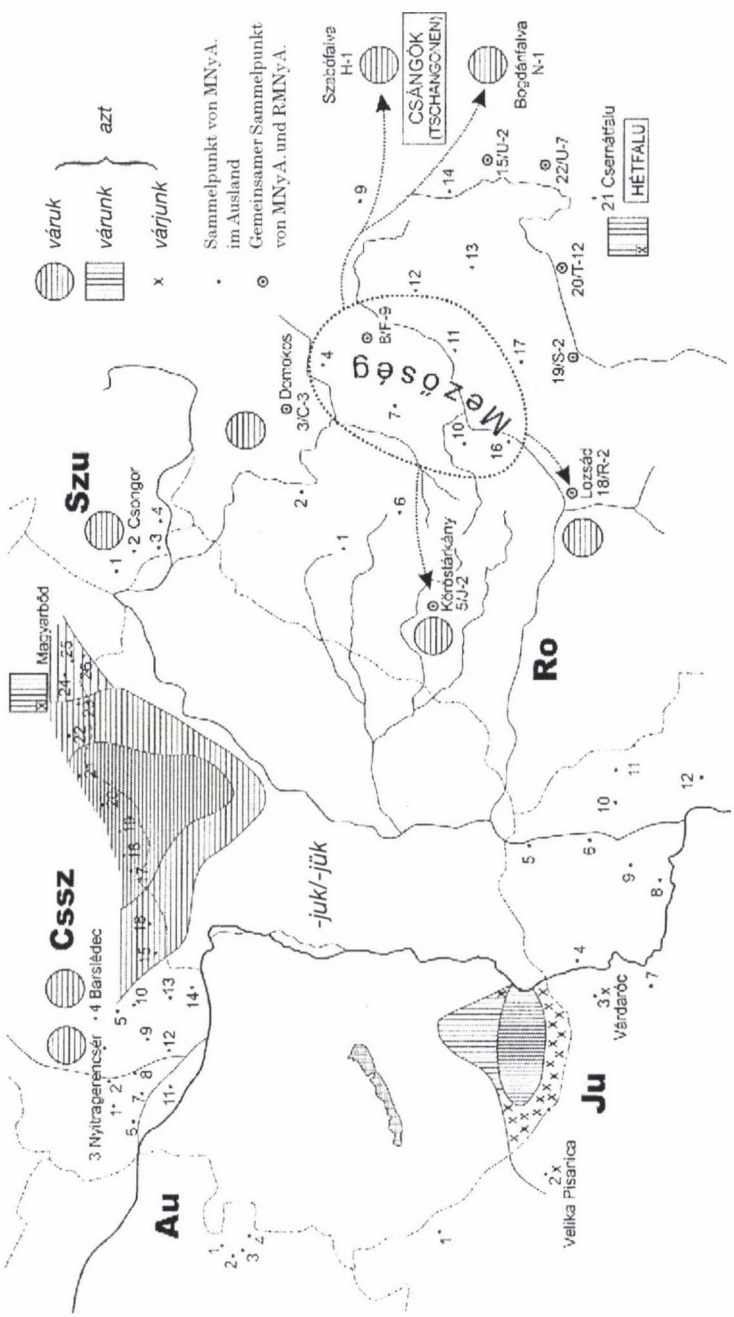
(i) Eine gesonderte Studie erfordert der auf Analogie basierende Prozess im Paradigma des Konditionals, dessen bekanntester Punkt die Verschiebung der dritten Person Singular *látná* ⇒ *látnája, kérné* ⇒ *kérnéje* bzw. der dritten Person Plural *látnák* ⇒ *látnáják, kérnék* ⇒ *kérnéjék* ist, die auch aus den Sprachdenkmälern reichlich belegt werden kann. Die Neuerungen, die zugleich mehrere Paradigmen betreffen, lassen sich der westungarischen Region zuordnen und weisen zahlreiche interessante Details auf.

Anhang 1

Beginn der urungarischen Zeit			***Wichtigste Veränderungen***		***Beginn der altungarischen Zeit***	
			SINGULAR			
	Determinierte Konjugation	Proformen der allgemeinen Konjugation	Determinierte Konjugation	Allgemeine Konjugation	Determinierte Konjugation	Allgemeine Konjugation
1	*várá-mV** *kére-mV*	*én várV* *kérV*	*(á > o, e > ë)*, Verrigerung des Öffnungsgrades *-mV > -m*: Verfall des Endvokals	Neues Suffix aus einem Formans: *-k*	*váro-m* *kérë-m*	*(én) váro-k* *kérë-k*
2	*várá-tV* *kére-tV*	*te várV* *kérV*	*(á > o, e > ë)* Verrigerung des Öffnungsgrades *-tV > -d*: Stimmhaftwerdung (Beseitigung der Homonymie)	Neues Suffix aus einem Formans: *-sz* (in anderen Verben auch noch *-l*, z.B. *nézel* 'du schaust')	*váro-d* *kérë-d*	*(te) vár-sz* *kér-sz*
3	*várá-i* *kére-i* [* *V*=Endvokal]	*ő várV* *kérV*	*ai > á (~í) → (o)-já (~í)* Monophthongisierung, Vervollständigung des Stammes *ei > í (~é)* Monophthongisierung in richtung geschlossen (in beiden Suffixen: Beseitigung der Homonymie)	Verfestigung des Nullsuffixes (in anderen Verben auch noch *-n*, *-ik*)	*vár(o)-já (~várí)* *kér-í (~kéré)*	*(ő) vár-∅* *kér-∅*
			PLURAL			
1	*várá-mVkV* *kére-mVkV*	*mi várá-kV* *kére-kV*	*(á > o, e > ë)* *-mVk > -muk/-mük* + Suffixtausch mit dialektaler Distribution	*(á > o, e > ë).* *-kV > -k > -uk/-ük >* *-juk/-jük* Einfügung eines Bindelautes, Ergänzung mit *j* (Beseitigung der Homonymie) mit dialektaler Distribution+Suffixtausch	*vár(o)-muk* / *kér(ë)-mük* → *váro-k (~váru-k)* *kérë-k (~kérü-k)* *> várjok, kérjök*	*(mi) vár(o)-muk* *kér(ë)-mük* *váro-k (~váru-k)* *kérë-k (~kérü-k)*
2	*várá-tVkV* *kére-tVkV*	*ti várá-kV* *kére-kV*	Das suffix *-tuk/tük* wird mit dem Element *-já* ergänzt, die Determiniertheit wird morphologisch stärker. Die alte Form geht nich verloren, sondern wechselt in die allgemeine Konjugation.	Die Form *vártok, kértëk* (usw.) ersetzt die Urformen *várok, kérëk (~váruk, kérük)*, die eine mehrfache Homonymie birgt.	*váro(o)-tuk* / *kér(ë)-tük* → *vár-játuk* *kér-itük* *> várjátok, kéritők (~kéritëk)*	*(ti) vár(o)-tuk* *kér(ë)-tük* *> vártok, kértők (~kértëk)*
3	*várá-ikV* *kére-ikV*	*ők várá-kV* *kére-kV*	Regulärer Plural der 1. P. Sg.	Suffixentlehung aus einem anderen Paradigma: *-nak*	*vár(o)-ják* *kér-ik*	*(ők) vár-nak* *kér-nek*

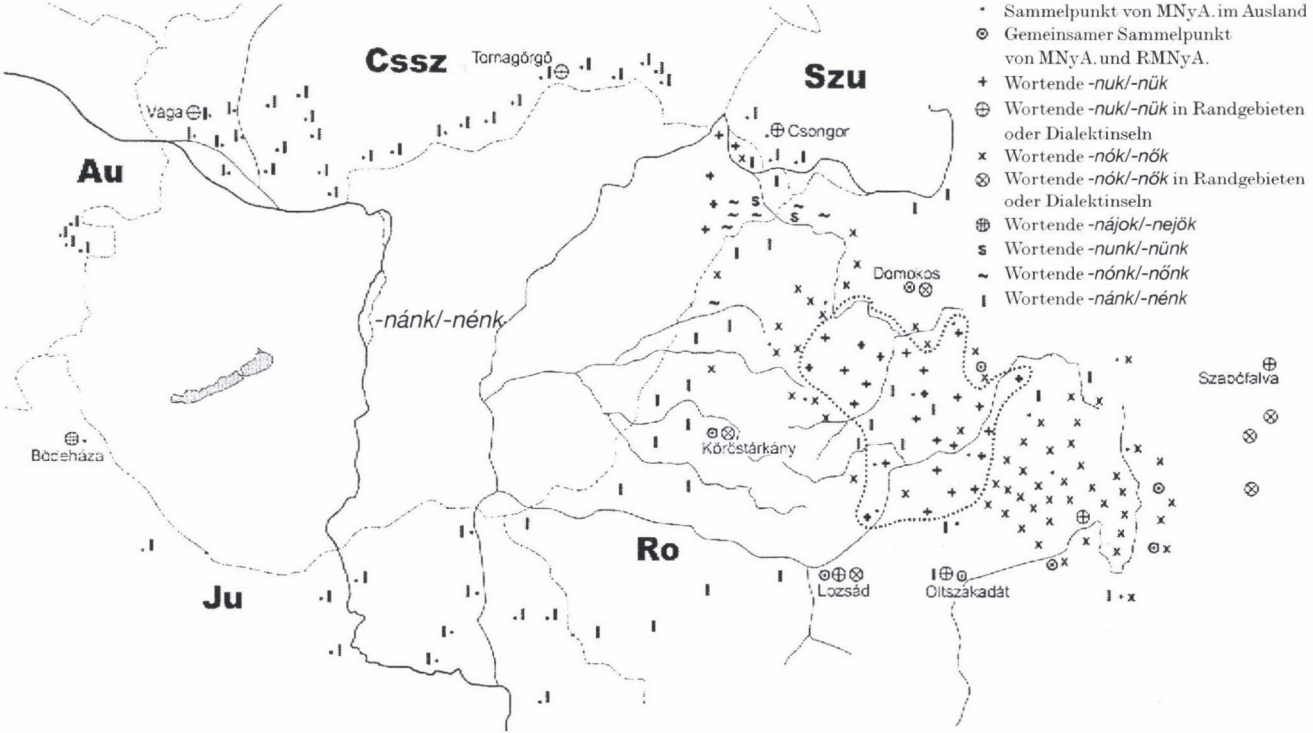
Anhang 2

Die sprachgeographische Distribution der Verbformen vom Typ *váruk, várunk, várjunk (azt)* anhand von MNyA. und RMNyA.



Anhang 3

Die sprachgeographische Distribution der Verbformen vom Typ *várnánk, kérnénk (azt)* anhand von MNyA. und RMNyA.



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METHODOLOGISCHE UND TERMINOLOGISCHE FRAGEN ZU DEN VERBALEN UND NOMINALEN WORTSTÄMMEN IN BEZUG AUF DIE HISTORISCHE GRAMMATIK DES UNGARISCHEN

ERZSÉBET ZELLIGER

Auszug

Das Schreiben befasst sich mit einigen Fragen des ungarischen Wortstammsystems in besonderer Rücksicht auf die verbalen Stämme, die während der Ausarbeitung der Historischen Grammatik des Ungarischen aufgekommen sind. Diese Themen sind: die Stammtypen, besonders aus solchen Aspekten, die in der früheren Literatur nicht oder anders behandelt wurden; die Stammauslautvokale, und damit in Zusammenhang einige morphophonetische Zusammenhänge; einige terminologische Fragen.

Die Geschichte der ungarischen Sprache umspannt einen großen Zeitraum. Die *Historische Grammatik des Ungarischen* (Benkő et al. 1991; 1992; 1995) behandelt nur eine kürzere Periode, von den Anfängen bis zum Ende des Spätaltungarischen. Selbst diese „kürzere Periode" umfasst ca. zwei Jahrtausende, welche in weitere kleinere Zeitabschnitte eingeteilt wurden. Diese Zeitabschnitte unterscheiden sich voneinander durch die Menge an Angaben. Infolge dieser Unterschiede werden die verschiedenen Perioden auch unterschiedlich behandelt.

Am Anfang jedes Kapitels in der Historischen Grammatik des Ungarischen steht eine kurze Zusammenfassung über die Vorgeschichte des betreffenden sprachlichen Teilsystems. Darauf folgen die urungarischen und frühaltungarischen sprachlichen Ereignisse, deren Resultat der Sprachzustand am Ende des Frühaltungarischen ist. Wegen der spärlichen Angaben im Frühaltungarischen und ihrem völligen Fehlen im Urungarischen basieren die Feststellungen auf Folgerungen. Aus diesem Grund wurde das Urungarische vom Frühaltungarischen nicht separiert. Der Synchronabschnitt am Ende des Frühaltungarischen ist mit dem Ausgangspunkt des spätaltungarischen Sprachgeschehens identisch. Das Spätaltungarische dauert bis zur Niederlage bei Mohács. Die Behandlung der sprachlichen Ereignisse im Spätaltungarischen unterscheidet

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sich wesentlich von der der früheren Perioden. Der Unterschied wurzelt in der Vielfalt der Daten in dieser Zeitspanne. Es gibt diverse Sprachdenkmaltypen: Übersetzungen und Originalwerke, kirchliche und weltliche Denkmäler, Gedichte und Prosawerke, Briefe usw. Diese Vielfalt ermöglicht es, durch Vergleich der Angaben ihre Stelle im Sprachgebrauch festzustellen und sowohl das ganze System als auch die kleineren Teilsysteme in ihrer Bewegung darzustellen. Diese Entwicklungsphase wird wieder mit einem Synchronabschnitt abgeschlossen. Die erwähnten allgemeinen Feststellungen gelten sowohl für die ganze Historische Grammatik des Ungarischen als auch für die Wortstämme.

Der Ausgangspunkt einer Untersuchung der Wortstämme ist das rekonstruierte Stammsystem vom Ende des finnougrischen Zeitalters, das mit dem Beginn des Urungarischen identisch ist. Die Rekonstruktion basiert einerseits auf den Ergebnissen der finnougrischen Sprachwissenschaft und andererseits im Rückschlussverfahren auf Kenntnissen aus der ungarischen Sprachgeschichte. Die beiden Richtungen der Annäherung führen nicht immer zu demselben Ergebnis. Die Rückschlüsse auf die Basis des Frühaltungarischen spielen deshalb in den umstrittenen Fällen während der Rekonstruktion eine wichtigere Rolle.

Die Klangfarbe der Stammauslautvokale wird in der Grundsprache meist durch untere, etwas seltener durch mittlere Zungenstellung gekennzeichnet gewesen sein. Die Mehrheit der Finnougristen spricht von Vokalharmonie nur bei den Stammauslautvokalen von niedrigerer Zungenstellung (vgl. Itkonen 1961, 64; Litkin 1969, 95; Hajdú 1973, 51 usw.) und akzeptiert nur einen neutralen Stammauslautvokal von mittlerer Zungenstellung. Da die Stammauslautvokale im Ungarischen unabhängig von der Zungenstellung stets der Vokalharmonie entsprechen, nehme ich auch die Vokalharmonie der Stammauslautvokale mittlerer Zungenstellung an (vgl. auch Collinder 1960, 187). Ebenso halte ich die Behauptung von Hajdú (1981, 125) für unwahrscheinlich, wonach die Stammauslautvokale am Anfang des Urungarischen mit oberer Zungenstellung gebildet wurden. Hajdú belegt seine Behauptung durch Angaben aus dem Frühaltungarischen, aber diese sind dazu nicht geeignet: Es ist kaum wahrscheinlich, dass eine solche radikale Veränderung in der Sprache durch das Selbständigwerden des Ungarischen eingetreten sein soll. Noch unwahrscheinlicher ist dabei seine Ansicht, dass diese schwachen Vokale länger als ein Jahrtausend, bis zur Zeit der Sprachdenkmäler, unverändert geblieben seien.

Bei der Herausbildung des ungarischen Wortstammsystems hat das urungarische Zeitalter eine wichtige Rolle gespielt. Die Haupttypen der Wortstämme sind um diese Zeit durch Lautveränderungen entstanden. Die Vielfalt der sprachlichen Ereignisse verursacht bei dem großen Mangel an Sprachdenkmälern große Schwierigkeiten bei der Aufarbeitung. Auch die Trennung der

sprachlichen Ereignisse des Ur- und des Frühaltungarischen voneinander weist Ungewissheiten auf, doch gibt es einige Kriterien, diese Fragen zu entscheiden.

Die sprachlichen Prozesse sind im Urungarischen verlaufen, wenn sie ein stabiles System im Frühaltungarischen ergeben haben. Die Stammauslautvokale sind in manchen Fällen vom Stamm zum Suffix gewandert. Wenn dieser Vokal vor dem Suffix eine niedrige Zungenstellung aufweist, ist der Prozess für das Urungarische typisch, wie z. B. deverbales Nomenbildungssuffix *-at/-et* gegenüber dem Possessivsuffix 1. Pers. Pl. *-unk/-ünk*. Weitere urungarische Entwicklungen sind: das Präteritum des Verbalstammtyps *tëszën : tőn* ohne *v*-Elemente, wie *tőn, vőn*; das *-sz* im Präsens bestimmter Verben. Auch die Varianten *mëgy-*, *më-* des Wortstammes *mën-* müssten im Urungarischen entstanden sein: sie sind zwar im Frühaltungarischen nicht belegbar, doch weist ihr reichliches Vorkommen im Jókai-Kodex am Beginn des Spätaltungarischen einen festen, in den Hauptlinien mit dem Gegenwartsungarischen übereinstimmenden Rollenkreis auf.

Die Änderungen im Bereich der Wortstämme stehen teils mit langablaufenden Lautveränderungen in Zusammenhang. Die Tendenz der zwei offenen Silben hat eine sehr wichtige Rolle beim Verschwinden der Stammauslautvokale und auch bei der Gestaltung der Stammvarianten *őriz : őrző, bokor : bokrot* im Ur- und Altungarischen gespielt. Auch mit der Vokaldehnung vor silbenschließenden Sonoranten in betonten Silben ist vom Urungarischen an zu rechnen. Diese Änderung muss selbst dann einen frühen Ursprung haben, wenn ihre Belege erst aus dem 16. Jh. ausreichend zur Verfügung stehen. Die Vokaldehnung steht nämlich mit dem Verschwinden der Stammauslautvokale in Zusammenhang. Diese Entwicklung hat die Stammvarianten *kelek : kél, telel : tél* zum Ergebnis. Der Anfang der Herausbildung der *v*-Varianten der Verbalstämme *tëszën : tőn* wurzelt ebenfalls im Urungarischen: Zu dieser Zeit werden die Formen *tëvé, vëvé-* im Präteritum entstanden sein. Die Stammvariante *v* im Partizip Präsens dürfte aber erst im Frühaltungarischen erschienen sein. Das frühere *té-* ~ *tő-* 'tuend', vgl. *kesztyű* 'Handschuh', wörtlich 'auf die Hand tuend'/'die Hand tuend', wurde langsam von *tëvő* verdrängt, ebenso *vëvő* statt *vő* 'kaufend', vgl. *vőlegény* 'Bräutigam', wörtlich 'der kaufende Junggeselle' (das Wort ist in semantischer Korrelation mit *eladó ⟨lány⟩* '⟨Mädchen⟩ im Alter, in welchem sie heiraten pflegen', wörtlich 'verkaufendes ⟨Mädchen⟩, ⟨Mädchen⟩ zum Verkaufen'), usw.; doch sind die Formen *tëvé, vëvé* im Präteritum im Spätaltungarischen noch immer nicht ausschließlich im Gebrauch.

Die Änderungen im Bereich der Wortstämme gingen teils im Frühaltungarischen vor sich. Die Herauskristallisierung des Gebrauches von vollständigen (also Stämmen mit Stammauslautvokal) und verstümmelten (Stämme ohne

Stammauslautvokal) Stämmen wird zu dieser Zeit geschehen sein: Im Spätaltungarischen findet man ein mit dem heutigen Ungarischen fast völlig übereinstimmendes System, wenn die Angaben manchmal auch auf den archaischen Gebrauch des Stammauslautvokals verweisen. Dasselbe ist über die Klangfarbe des Stammauslautvokals zu sagen.

Die Ausarbeitung der ungarischen Wortstämme in der Historischen Grammatik des Ungarischen unterscheidet sich von den früheren historischen und deskriptiven Beschreibungen sowohl in der Anschauung als auch in den Methoden.

Im Mittelpunkt des Interesses stand früher ausschließlich der Wortstamm. Es darf aber nicht übersehen werden, dass das Ungarische eine agglutinierende Sprache ist. Daraus resultiert, dass die Wortstämme in den Texten ausschließlich mit Suffixen versehen erscheinen, was sich auch in der Aufarbeitung widerspiegeln muss. Der Auftritt der einzelnen Stammvarianten hängt von der Verbindung zwischen Stamm und Suffix ab. Deshalb wurden die Suffixe auch innerhalb der Wortstämme akzentuiert behandelt. Die Suffixe ausschließlich mit verstümmelten Stämmen (z. B. Bildungssuffixe *-hat/-het*, *-at/-et*, Modalsuffix *-j*, Verbalsuffix *∅* usw.) werden getrennt von denen beschrieben, die wechselnd mit oder ohne Stammauslautvokale (z. B. Bildungssuffixe *-kodik/-ködik/-ködik*, *-gat/-get*, *-ni*, Modalsuffixe *-na/-ne*, *-ná/-né*, Verbalsuffix *-nak/-nek* usw.) vorkommen. Wo es überhaupt möglich ist, wird auch die Ursache der Schwankung aufgeklärt.

In den früheren monographischen Aufarbeitungen der ungarischen Wortstämme ist dieser Gesichtspunkt nicht zu finden. Losonczi (1923–1927, 242–86, 402–58; 1928–1930, 125–47) hat zwar die Suffixe mit davorstehenden Stammauslautvokalen untersucht, sich aber in erster Linie für die Klangfarbe der Stammauslautvokale interessiert. Es gibt neuerlich einige Abhandlungen über die Gegenwartssprache (sowohl die Umgangssprache als auch die Dialekte), welche nicht nur die Klangfarbe, sondern auch schon die An- bzw. Abwesenheits-bedingungen der Stammauslautvokale untersuchen. Diese Arbeiten (Sebestyén 1957, 37–48; Jakab 1969, 79–97; 1970, 37–52) leisteten mir im Laufe der sprachhistorischen Aufarbeitung große Hilfe.

Den oben erwähnten Standpunkten entsprechend werden die Wortstämme in der Historischen Grammatik des Ungarischen anders als bei Gombocz (1951) und Bárczi (1958b) behandelt. Aus der Erkenntnis von Benkő (1980), dass die wichtigste Rolle bei der Veränderung der Stämme die sprachlichen Ereignisse um die Stammauslautvokale gespielt haben, folgt, dass morphophonetische Veränderungen in den Mittelpunkt gestellt wurden. Im Rahmen der Opposition von vollständigen vs. verstümmelten Stämmen konnte ich die Vokaldehnung

und ihr Fehlen im Stamminneren, den Vokaleinschub und den Vokalverfall sowie einige Fragen der *v*-Stämme am besten klären.

Im Gegenteil zur früheren Fachliteratur habe ich in der Historischen Grammatik des Ungarischen nicht nur die absoluten und einige durch Wortbildungsprozesse entstandene relative Wortstämme, sondern alle relativen Wortstämme berücksichtigt. Ebenso habe ich auch die mit Modal- und Temporalzeichen versehenen relativen Verbalstämme in die Analyse einbezogen, da diese auch weiter zu suffigieren sind. Diese Verbalstämme bilden teils von den übrigen Verbalstämmen völlig abgesonderte Typen. Die genannten Fälle sind die mit dem Konditionalsuffix bzw. Präteritumsuffix versehenen Stämme. Ihre Eigenart wurzelt in den auslautenden Vokalen, welche keinen Alternanten mit auslautendem Konsonant aufweisen, z. B. *adá-, kéré- > adá-, kéré- : ada-, kére-, adná-, kérné- > adná-, kérné- : adna-, kérne-*. Diese Verbalstämme haben bloß bei den Nominalstämmen Parallelfälle, z. B. *fá- : fa-, béké- : béke-, házá- : háza-, kezé- : keze-*. Auch die Gestaltung der Verbalstämme mit auslautenden Vokalen ist durch morphophonetische Änderungen möglich.

Die Arbeiten über die Wortstämme haben die fiktiven Stämme bisher außer acht gelassen. Der Fachausdruck „fiktiver Verbalstamm" wurde von Benkő (1984) geschaffen und wird für Stämme verwendet, welche nicht selbständig gebraucht werden, ist also eine zusammenfassende Benennung der Stämme unterschiedlichen Ursprungs. Die fiktiven Stämme werden des weiteren noch unter den Terminologiefragen behandelt.

Die Typen der Verbalstämme sind nicht immer aus morphophonetischen Änderungen abzuleiten. Die Analogie war eine wichtige Komponente bei der Entstehung der Stammvariante *van- < vannak* gegenüber *vol- ~ val-, vagy-* oder der veralteten Form *mëdnek* und der mundartlichen kontaminierten Form *mëngyëk* von *mën-, mëgy-*. Andererseits war es nicht möglich, dabei alle in der Entwicklung der Verbalstämme vorkommenden analogischen Änderungen zu behandeln. Die Wirkung der Analogie im Stamminneren, am Ende des Stammes oder bei der Entwicklung der Stammauslautvokale wird an den genannten Stellen erörtert. Einige Stammvarianten sind durch Ankoppelung von beigefügten Elementen zustande gekommen. Solche Elemente sind: *sz* (*tësz- : të-, tő-, cseleksz- : cselekëd-*), *l* (*nől- ~ nő-*), *v* (*tëv- : të-, cselekv- : cseleksz-*), *d* (*alsz- : alud-*). Diesen Fragen sind gesonderte Kapitel in der Historischen Grammatik gewidmet.

Die Analyse der Geschichte der Verbalstämme (im Sinne der Historischen Grammatik) hat eine zweifache Ausrichtung. Als historische Aufarbeitung ist sie nicht nur bestrebt, den sprachlichen Wandel zu beschreiben, sondern auch die die Änderungen hervorrufenden Gründe aufzuklären. Abhängig von den

Angaben (besonders im Spätaltungarischen) versucht die Grammatik, auch stilistische Anweisungen, auf den Sprachgebrauch bezogene und dialektale Anmerkungen zu machen. Solche Bestrebungen haben mich auch bei der Behandlung der Verbalstämme geleitet. Die deskriptive Methode kommt in den Zusammenfassungen der beiden großen Perioden am Ende des Früh- und des Spätaltungarischen zur Geltung. Diese Details sind am ehesten der Handlungsweise der früheren Stammlehren ähnlich, da die Beschreibung hier den einzelnen Stammtypen folgt.

Im Laufe des Fortschreitens der Forschungen verlangt manchmal die Sprache selbst durch ihr besseres und tieferes Bekanntwerden einige Änderungen in der Terminologie. In anderen Fällen hängt der terminologische Wechsel mit sprachlichen Änderungen zusammen.

Die beiden Kapitel der Wortstämme konnten nicht auf die Klärung einiger manchmal sogar umstrittener Fachausdrücke verzichten. Der schon erwähnte „fiktive Stamm" innerhalb der Verbalstämme hat den früheren, gewissermaßen nicht eindeutig gebrauchten „verblaßten Stamm" teilweise abgelöst. Der „fiktive Stamm" wurde in der Bedeutung von 'nicht wirklicher, unmittelbar nicht nachweisbarer Stamm' statt der früheren Termini „improduktiver/passiver/verblasster Stamm" schon von Benkő (1984) gebraucht. Dieser Terminuswechsel wurde notwendig, da die alten Termini und der neue nicht denselben Inhalt haben. Der früher meist gebrauchte Terminus „verblasster Stamm" bezieht sich im neuen Sinn blos auf mit Wortbildungssuffixen versehene Wortstämme, bei denen der Stamm gar nicht mehr erkennbar ist, sondern entweder durch die Opposition der Bildungssuffixe oder durch die etymologischen Zusammenhänge nachweisbar ist. Hierher gehören die Oppositionen, wie z. B. *tanít : tanul, metsz : metél, fárad : fáraszt*, aber auch Stämme, die keiner Wortfamilie angehören, z. B. *harap, mond, nyúz* usw. Der „fiktive Stamm" beinhaltet noch die onomatopoetischen Stämme, wie *rëp- : rëpül* ~ *rëpës* ~ *rëpít* ~ *röpdös, rëszël, nyerít, csëng* usw., und die Stämme der Lehnverben, die sich vom Frühaltungarischen an nur mit dem Bildungssuffix *-l* oder seinen Varianten (*-ál, -ol/-ël/-öl*) und später noch *-z, -íroz* in das ungarische Verbalstammsystem einordnen konnten. Nach dieser Funktion können diese Morpheme Nostrifikationsbildungssuffixe genannt werden.

Der Gebrauch des Terminus Stammauslautvokal bedarf ebenfalls einer Erklärung. In der ungarischen sprachwissenschaftlichen Fachliteratur ist die Benennung des Vokals an der Grenze zwischen Wortstamm und Suffix eine umstrittene Frage. Die Benennung steht nämlich mit der morphologischen Zugehörigkeit des Vokals im engsten Zusammenhang. Wenn ich von Stammauslautvokal spreche, verweise ich auf meine Auffassung, dass dieser Vokal etymologisch

zum Wortstamm gehört. Es darf aber nicht vergessen werden, dass dieser Vokal während der Sprachgeschichte verschiedene Änderungen durchlaufen hat. Im Auslaut ist er im Urungarischen stufenweise geschlossener geworden, wonach er im Frühaltungarischen ganz verschwindet. In der Position vor primären Suffixen hat er jedoch meist seinen alten Klang erhalten. Einige Suffixe haben den Vokal vor sich vereinheitlicht und später an sich gezogen. Im Laufe dieser Änderung hat sich der morphologische Aufbau des Wortes umgestaltet. Diese Wandlung ist nicht nur für das Altungarische typisch, sondern kommt auch in späteren Epochen zur Geltung. Die Umgestaltung der Wortgestalt begründet die Auffassung, den umstrittenen Vokal als Teil des Suffixes zu betrachten. Diese Meinung spiegelt sich in der Terminologie wider, indem der Laut Vorvokal genannt wird. Weitere Änderungen sind, aus prosodischen Gründen, vor silbischen Suffixen geschehen. Diese jüngeren Suffixe kommen entweder mit anlautendem oder ohne solchen Vokal vor. Die Forscher, die diese Eigenschaft hervorheben, nennen ihn Bindevokal. Die terminologische Vielfalt ist nicht nur die Widerspiegelung der verschiedenen Gesichtspunkte von historischen und synchronischen Methoden, sondern meldet sich auch innerhalb der sprachgeschichtlichen Auffassungen verschiedener Autoren, vgl. Benkő (1980, 124-57) und Nyíri (1984, 140-1).

Die fraglichen Vokale der Verbal- bzw. Nominalstämme weisen ein voneinander abweichendes Bild auf. In den frühen kurzen Textdenkmälern findet man zwar stets Wortgestalten ohne Auslautvokal (das heißt, verstümmelte Stämme) vor den *∅* Flexionssuffixen der Nomina, wie z. B. in der altungarischen Leichenrede (HB.) – die Daten werden des weiteren in einer der wahrscheinlichen Aussprache nahekommenden Form angegeben: *pur, aχszin, idzs, embër, hatalm, segéd, pukul*; das Königsberger Fragment (KT.): *szűz, lëány, isten*; die Streifen des Königsberger Fragments (KTSz.): *bódug, bölcs*; Altungarische Marienklage (ÓMS.): *siralm, tudatlan, ézës, vas, halál*; die Zeilen von Gyulafehérvár (GyS.): *künyér*; usw., bzw. vor den *∅* Modal-, Temporalzeichen und Flexionssuffixen der Verba: KT.: *illethet, tart*; ÓMS.: *árad, fárad, szégyënül, hal, választ* usw. In der ersten im Original erhaltenen Urkunde, der Gründungsurkunde von Tihany (TA.) kommen die Nomina nicht selten mit Stammauslautvokal vor: *türkü, szilu, székü, szádu, kerekü, χolmodi, eri* usw. Der Stammauslautvokal der als Eigennamen gebrauchten Nomina kommt auch in viel späteren Quellen des öfteren vor, wie z. B.: 1131: *Samudi* PN., *Kasudi* PN.; 1138/: *Degü* ON., *Sagu* ON., *Ruoszti* ON., *Magdi* PN., *Vagdi* PN.; Anonymus: *Emesü* PN., *Ecilburgu* ON., usw. Verbalformen als Nomina sind ganz selten, sie sind aber ausnahmslos ohne Stammauslautvokal zu dokumentieren: 1138/: *Nümél* PN., *Mavagy* PN.; 1211: *Mëkszëg* PN.; 1220/: *Nümhisz* PN. (Es gibt

selbstverständlich auch Nomina ohne Stammauslautvokal in stets wachsender Anzahl: TA.: *fuk* ON., *szakadat* ON., *áruk, kut, kert hel*; 1138/: *Korpás* PN., *Farkas* PN. usw.).

Es gibt verschiedene Gründe, die beim Ausfall des Stammauslautvokals eine Rolle gespielt haben. Die Tendenz der zwei offenen Silben hat sowohl im absoluten Auslaut als auch im Wortinneren mehrsilbiger Wörter (an der Morphemgrenze) den Ausfall des Stammauslautvokals gefördert. Diese Tendenz wirkte nicht nur in den Verbal-, sondern auch in den Nominalstämmen. Ihre Wirkung wurde durch die Phrasengrenze verstärkt (vgl. z. B.: Szinnyei 1904, 9; Melich 1910, 158; Bárczi 1958a, 20–1, 79; Kubínyi 1958, 213–32). Die Änderung der Suffixe in der Form vom Diphthong zum Monophthong hatte den verstümmelten Wortstamm dadurch zum Ergebnis, dass das erste Element des Diphthongs (identisch mit dem Stammauslautvokal) den Sprechern nicht mehr erkennbar war. Diese Art des Sprachwandels ist ein Ereignis am Ende des Urungarischen. Es gab eine Reihe von Suffixen, die an diesem Prozess beteiligt waren: **i̯* als Temporalzeichen für das Präteritum Imperfectum, als Lativflexionssuffix, als Possessivsuffix 3. Pers. Sing. usw. (Papp 1963, 406–8). Die Schließungstendenz des Stammauslautvokals war auch ein Faktor, der seine Trennung vom Stamm ermöglicht. Einige Suffixe haben ihn uniformisiert und dann für sich typisch gemacht. Dieser Entwicklungsprozess hat in der zweiten Hälfte des Urungarischen begonnen und ist auch noch im Spätaltungarischen zur Geltung gekommen: TA.: *szakadat*, HB.: *ildetüitűl*; An.: *szerelmes*; HB.: *hatalm*; ÓMS.: *tudatlan*; JókK.: *látandasz*; MünchK.: *születendik*; usw. Die Sprecher haben diese Suffixe in der Form *-at/-et*, *-alom/-elëm*, *-and/-end* usw. aufgefasst, wodurch der Stamm vor dem Suffix mit dem verstümmelten Stamm identisch wurde (Benkő 1980, 128–33, 163–4). Von den erwähnten Tendenzen waren die Verbal- und die Nominalstämme gleichermaßen betroffen.

Der mit der Tendenz der zwei offenen Silben zusammenhängende Schließungsprozess und der Schwund des Stammauslautvokals haben sich mit einer anderen Bestrebung im Urungarischen bei den Verbalstämmen verknüpft. Die Angaben verweisen von frühen Zeiten an darauf, dass die Sprache die Koexistenz und Schwankung der offeneren und geschlossenen Stammauslautvokale für die Unterscheidung von grammatikalischen Formen verwendet hat. Diese Doppelheit hat die bessere Unterscheidung zwischen Stämmen mit Temporalsuffix *-t* und Modalsuffix *-j* vs. Stämme mit *Ø* Temporal- und Modalsuffixen (Indikativ Präsens) ermöglicht. Der Stammauslautvokal mit niedriger Zungenstellung steht nach den Suffixen *-t* und *-j*: *adtam, kértem, adjam, kérjem*, der Stammauslautvokal mit mittlerer Zungenstellung steht im Präsens der Aussageform: *adom, kérëm*. Die mittlere Zungenstellung des Vokals nach dem Fu-

tursuffix *-and/-end*: *adandok, kérendëk* ist mit dem Ursprung des Morphems zu erklären. Dieses Suffix ist nämlich auf das Frequentativ-Bildungssuffix *-nd* zurückzuführen.

Der in dieser Weise paradigmatisierte Stammauslautvokal bei den Verben hat sich im Urungarischen weit von den früheren Sprachzuständen losgelöst. Folglich könnten die Verbalstämme den Nominalstämmen im Verlust des Stammauslautvokals vorangehen.

Aufgrund der vorgetragenen Erkenntnisse ist folgendes festzustellen: Die am Anfang exponierte Vielfalt der Fachausdrücke wurzelt in den sprachlichen Wandlungen. Es ist auch klar, dass die Entscheidung nicht entlang der Grenze zwischen Sprachgeschichte und Gegenwartssprache gezogen werden kann, die Nutzungsmöglichkeit des Terminus „Stammauslautvokal" ist auch in der historischen Grammatik begrenzt. Bleibt noch die Frage, wie lange der Terminus benutzt werden darf, wann ihn ein anderer (und welcher) ablösen soll. Aufgrund dieser Frage ergeben sich noch weitere: Soll der Forscher den sprachlichen Wechsel, den Unterschied zwischen Verbal- und Nominalstämmen, gleich in der Terminologie zum Ausdruck bringen? Es ist nötig, weitere Gesichtspunkte in Betracht zu ziehen, um die beste Entscheidung zu treffen.

In den Nominalstämmen ist, wie schon gesagt, der Stammauslautvokal auch im Frühaltungarischen vorhanden, und zwar nicht bloß in Eigennamen, sondern auch in Gattungsnamen, wo seine Erhaltung auf funktionelle Gründe zurückzuführen ist: HB.: *ildetüitűl, kínzatujátúl*; KT.: *kezdetüitűl*; KTSz.: *látotuben*; GyS.: *jelënetüiben, nemzetüi* usw. Die Funktion, in welcher der Vokal beibehalten wurde, ist die Bestrebung, die Homonymie der Suffixe desselben Ursprungs (Partizip-Bildungssuffix *-t*, Temporalzeichen, deverbales Nomenbildungssuffix) voneinander zu unterscheiden. Unter den Verbalformen der HB. befinden sich einige ähnliche Fälle: *terümteßé, tilutoá, mundoá, χadlaßá, feledeßé, veteßé*, wobei es sich um die Bestrebung handelt, die subjektive und objektive Verbalflexion voneinander zu unterscheiden.

Der Stammauslautvokal der Nominalstämme wurde nicht paradigmatisiert, demzufolge weist seine Klangfarbe eine viel engere Beziehung zu der der finnougrischen Grundsprache auf. Die Klangfarbe des analysierten Vokals ist oft bis zur finnougrischen Grundsprache vor bestimmten Suffixen, bzw. in verblassten Stämmen zurückzuführen: *al-* 'unterer Teil', vgl. *ala-tt* < uralisch **ala*; *ár* 'Preis' vgl. *ára-k*, *ára-t* < fgr. **arβa-* od. **arɣa*; *fogo-ly* < ur. **piŋe* (od. **püŋe*); *énë-k* < fgr. **äne-*; *fél* vgl. *fele-t* < ur. **pälä* (UEW.). Der Stammauslautvokal vor den Nominalsuffixen (Pluralsuffix *-k*, Nomen-Possessivbildungssuffix *-s*, Akkusativsuffix *-t*) ist immer noch für die Stämme typisch: *hold: holdak, holdas, holdat; kéz: kezek, kezes, kezet; nap: napok, napos, napot; kert:*

kertëk, kertës, kertët. Solche Entsprechungen sind innerhalb der Verbalstämme nicht zu finden. Durch die Paradigmatisierung des Stammauslautvokals sind die Möglichkeiten für die Entsprechungen meist verschwunden. Doch findet man noch im Spätaltungarischen Verben mit einem Stammauslautvokal geschlossenerer Klangfarbe als üblich: JókK.: *nyugolomval, alkolmas*; BécsiK.: *alotom őket : dormire eos faciam, mëgnyugotom : qiescere faciam*; BirkK.: *nyugulmatlanokat*; usw.

Der Wechsel von verstümmelten und vollständigen Verbalstämmen vor bestimmten Suffixen ist für die Stämme zwar typisch, aber die entscheidende Rolle liegt bei den phonetischen, akustischen, rhythmischen Faktoren. Die Klangstruktur des Stammes, das heißt, ob sich an der Morphemgrenze ein langer Konsonant, eine Konsonantenverbindung oder ein kurzer Konsonant befindet, des weiteren die Silbenzahl des Stammes, die Zeitdauer des Vokals im Stamminneren usw. beeinflussen den Wechsel.

Es gibt archaische Formen verschiedener Art in den Texten. An der Morphemgrenze befinden sich Stamm- und Suffixverbindungen mit Stammauslautvokal auch dann, wenn das Vorkommen des Vokals phonetisch nicht begründet ist: JókK.: *kérëvén*; KesztK.: *fëlemelëvén*; JókK.: *mëgrëttenëtt*; BécsiK.: *szólasz*; LobkK.: *akarasz*; ÉrdyK.: *járott*; ÉrsK.: *nyírëtt*; usw. Es ist kaum möglich, nicht vom Stammauslautvokal zu sprechen, da die frühen Angaben sein letztes Erscheinen in dem Wandlungsprozess vor einem Suffix zeigen: HB.: *tilutoá* : um 1290: *tiltja*; KTSz.: *takarutá* : 1579: *eltakarta*; HB.: *oduttá* : JókK.: *adta*; KTSz.: *szilüt* : 1520: *szült.*

Es ist fraglich, ob der Vokal zum Suffix gehört, wenn das Suffix größtenteils ohne ihn vorkommt. Der Wechsel ist seit der Zeit der Kodizes reichlich zu dokumentieren: *választalak, mondolak* ~ *mondalak : kérlek, kildlek, vallak; lëszállani, mëgfëddeni, mëgtartani : imádni, látni; mondogat, nézëget, mosogat : takargat, apolgat, ölelget* usw. Ein Teil der Forscher der deskriptiven Linguistik betrachten den Vokal auch in diesem Fall als Teil des Suffixes.

Die Wandlung des Vokals an der Morphemgrenze hat sich im Mittelungarischen weiter fortgesetzt. Zu dieser Zeit hat sich seine Klangfarbe — teils in einigen Dialekten — geändert. Bei den Palatalen hat der mundartliche Wandel *ë* > *e* den Unterschied *kertëk : kezek* beseitigt. Durch die Rechtschreibung gefördert, haben sich die *e*-Varianten (*kertek, kezek*) in der Standardsprache verbreitet. Bei den Velaren wurde der Unterschied *házak : ablakok* durch die assoziative Vokaländerung *á a* > *á–o* in den transdanubischen Dialekten verschmolzen: *házok, ablakok.* Durch diese Wandlungen hat der Terminus „Stammauslautvokal" seinen Sinn verloren.

Die drei Fachausdrücke Stammauslautvokal, Vorvokal und Bindevokal für den betreffenden Vokal haben verschiedene Werte. Der Bindevokal bezieht sich bloß auf die Tatsache, dass der Vokal in manchen Fällen phonetische Funktionen erfüllt. Der Gedanke, der hinter dem Terminus steht, hat zur Folge, dass der Vokal weder zum Wortstamm noch zum Suffix gehört, folglich sollte er ein selbständiges Morphem sein. Die Analyse der Wortgestalt wäre nach dieser Auffassung *ad-o-k*, *kér-ë-k*, *ház-a-k*, *kez-e-k* usw. Der Vokal hat aber keine morphologische Funktion, wodurch der Terminus „Bindevokal" neuerlich sowohl von der deskriptiven als auch von der historischen Linguistik abgelehnt worden ist.

Der Terminus „Stammauslautvokal" hat eindeutig einen historischen Inhalt. Sein Gebrauch wird mit dem sprachlichen Wandel im Laufe der ungarischen Sprachgeschichte immer enger. Die historische Grammatik konnte auf diesen Terminus nicht verzichten, da die sprachlichen Entwicklungsprozesse mit dem von ihm gekennzeichneten Sprachelement eng verbunden sind. Der Wandel um den Vokal führt dazu, dass er für die Sprecher nach gewisser Zeit nicht mehr erkennbar ist. Dies dürfte beim Mittelungarischen schon der Fall gewesen sein, denn die ersten ungarischen Grammatiken, angefangen mit János Sylvester, rechnen nicht mit dem Stammauslautvokal. Die Grammatiken von Antal Szenczi Molnár und seinen Nachfolgern segmentieren den Vokal zum Suffix.

Wie die Beschreibung des Entwicklungsprozesses zeigte, verhält sich der Vokal vor dem Suffix auf zweierlei Art. Ein Teil der Suffixe haben ihn vor sich uniformisiert und dann an sich gezogen: deverbales Nomenbildungssuffix *-at/-et*, *-alom/-elëm*, *-atlan/-etlen*, *-atag/-eteg* usw. Diese Suffixe und der Vokal gehören für die Sprecher untrennbar zusammen. Ähnlich sind die Suffixe, die an bestimmten Stellen unverändert erscheinen: Possessivsuffix 1. Pers. Plur. und Verbalflexionssuffix 1. Pers. Plur. *-unk/-ünk* (*házunk, kertünk : hajónk, mezőnk, adunk, kérünk : adnánk, kérnénk*). Die paradigmatisierten Verbalsuffixe sind auch zu dieser Gruppe zu rechnen: 1. Pers. Sing. Indikativ Präsens *-om/-ëm* (*adom, kérëm*), 1. Pers. Sing. Indikativ Präteritum Perfektum und Aufforderungsform *-am/-em* (*adtam, kértem, adjam, kérjem*). Der Vokal und das „eigentliche" Suffix bilden in diesen Fällen eine untrennbare Einheit, so dass es unnötig ist, den Vokal irgendwie zu benennen.

Anders liegt der Fall, wenn der Vokal aus phonetischen Gründen erscheint. Es gibt hier zwei Möglichkeiten. Das Fehlen des Vokals steht dem Vokal mit bestimmter Klangfarbe gegenüber: *-gat/-get : -ogat/-ëget/-öget : tanulgat, keresget : válogat, kérëget, öblöget.* Die Verbindung des Vokals mit einigen Nominalsuffixen ergibt ein viel bunteres Bild. Die Klangfarbe des Vokals wird vor dem Pluralsuffix *-k*, Nomen-Possessivbildungssuffix *-s*, Akkusativ Flexionssuf-

fix *-t* auch in der Gegenwartssprache vom Stamm determiniert: *házak, házas, házat, kezek, kezes, kezet; napok, napos, napot, kertëk, kertës, kertët* usw. Der Vokal wird nicht nur in der deskriptiven Linguistik und in der angewandten Sprachwissenschaft als Teil des Suffixes betrachtet, sondern er soll meiner Meinung nach auch in der Sprachgeschichte vom Mittelungarischen an dazu gerechnet werden, obwohl sich dadurch die Zahl der Suffixalternanten rasant erhöht. Für diese Fälle ist der Terminus „Vorvokal" am besten geeignet. (Ein weiteres Problem meldet sich bei den Eigenschaftswörtern, welche auch als Substantive fungieren. Hier verfügt die Qualität des Vokals (oder sein Fehlen) über eine Funktion, wodurch die aktuelle Wortartzugehörigkeit gekennzeichnet wird: *okos* 'Kluge', 'klug', *okosok* Hauptwort vs. *okosak* Eigenschaftswort, *okost* Hauptwort vs. *okosat* Eigenschaftswort. Dieses Verhalten ist dem paradigmatisierten Stammauslautvokal der Verben verwandt.)

Die terminologische Änderung, welche den Vokal an der Morphemgrenze betrifft, hat weitere Folgen für die Terminologie: Wenn der Vokal nicht mehr zum Stamm gehört, sondern die Zahl der Suffixalternanten durch ihn erhöht wird, verlieren die Termini vollkommener und verstümmelter Stamm ihren Sinn.

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BOOK REVIEW

Stefan Engelberg: Verben, Ereignisse und das Lexikon. Linguistische Arbeiten 414. Niemeyer, Tübingen, 2000, 360 pp.

Engelberg's work is an extensive discussion of the representation of event structure of verbs in the lexicon. According to the author's basic assumption, verbs refer to internally structured events, which entails that the representation of verb meaning consists essentially in the representation of its event structure, which is formulated in terms of meaning postulates. In addition, it is claimed that the representations must also be motivated ontologically and psycholinguistically (cognitively). The book is organized as follows: 1. 'Introduction', 2. 'Event structure', 3. 'Argument structure', 4. 'Semantic relations', 5. 'The ontology of events', 6. 'The perception of events', and 7. 'Event verbs'. Since the basic ideas of event structure are put forward in Chapter 2, in what follows I am going to restrict my comments on this particular chapter.

As to event structure, Engelberg makes the following assumptions (32-3): (a) Verbs denote events, which may consist of several subevents. (b) Subevents may be events in the strict sense (denoted by *e*) or states (*z*). (c) Subevents may refer to durative (DUR) or punctual (PKT) events. (d) Subevents are connected by means of one of two temporal relations: temporal overlap (<>) or temporal precedence (<). In some cases there may be a causative relation between two subevents (CAUSE($\mathbf{e^1}$,$\mathbf{e^2}$)). (e) Argument structure is part of event structure and each argument is characterized by a thematic role (AGENS, PATIENS,...). (f) The presence of a subevent is either implied ($\rightarrow_I$) or presupposed ($\rightarrow_P$) by the open proposition representing the semantic translation into predicate logic of verb meaning (e.g. V'(x) for intransitive and V'(x,y) for transitive verbs). (g) The representation must also contain information about the morphosyntactic properties of the arguments, though this aspect is not discussed in any detail (see the representations on pp. 32 80).

According to the above assumptions a partial representation of the verb *abtrocknen* 'dry' looks like this (31).

(1) *abtrocknen*: x^{nom}, y^{akk}
E-STR: $(\rightarrow_I \mathbf{e^{1[+DUR]}}: x^{AGENS}, y^{PATIENS}) <> (\rightarrow_I \mathbf{e^{2[+DUR]}}: y^{PATIENS}) < (\rightarrow_I \mathbf{z}: y^{PATIENS})$

That is, the two-place verb *abtrocknen* 'dry' denotes three subevents, all implied. The first subevent is a durative event in which an Agent and a Patient participate: the Agent does something to the Patient. The second subevent expresses the process of drying, the only participant in this process is the Patient. These two subevents overlap temporally. Finally, the third subevent is the state of 'being dry', which follows the second subevent.

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An event structure which contains a presupposed subevent is, for example, the event structure of the verb *fangen* 'catch' (34).

(2) *fangen*: x^{nom}, y^{akk}
E-STR: $(\rightarrow_P \mathbf{e^1}: y^{PATIENS}) < (\rightarrow_I \mathbf{e^2}: x^{AGENS}, y^{PATIENS})$

Of course, (2) should also contain the specification that $\mathbf{e^1}$ is a durative and $\mathbf{e^2}$ a punctual event. Moreover, as the author points out, (2) is not complete in yet another aspect either: (2) must also contain a third subevent **z**, the consequent state, implying that x has caught y (= the Patient is in the state of being caught). However, this latter subevent cannot be part of the lexical representation of *fangen* 'catch', cf. the sentence *Bill has tried to catch the dog but he did not succeed.* This means that the final state can only be derived compositionally in certain contexts, a problem which Engelberg has not come to grips with. Engelberg seems to assume the same event structure as (1) for the verb *trocknen* (48), which, however, does not necessarily imply a consequent state, cf. *They were drying the wall all day (but it never got dry).* On the other hand, *Mary dried her hair in ten minutes* does imply such a state, which means, once again, that the consequent state can only be derived compositionally. This raises a more general problem: it seems to be the case that event structure has to be determined on the sentence level since context may change the lexical potential contained in the lexical representation of verbs. Event structure is a "propositional category", it must be defined on the sentence level. The same problem has been known since the early seventies under the heading of the compositionality of aspect. Of course, languages may differ with respect to the degree of compositionality. For example, a language like Russian or Hungarian uses verbal prefixes to indicate perfectivity, i.e.—in the case of telic verbs—the presence of a consequent state in event structure, cf. the Hungarian verb pair *szárít–megszárít* 'dry' where the second, but not the first, verb contains a consequent state in its lexical event structure.

The author is quite aware of the fact that his claim about event structure can only be substantiated if it is possible to identify subevents linguistically. The following means may serve this purpose (48–54): (a) adverbial modification e.g., *Bill drove the car carefully* vs. *Bill drove the car with high speed*, (b) ambiguity of scope e.g., *John almost killed Henry*, (c) hyponymy and other lexico-semantic relations e.g., *Ramona jogged to the lake – Ramona ran to the lake.* To these we may add (from Engelberg 1994): (d) the transitive–intransitive alternation, e.g., *John opened the door – The door opened*, and (e) pronominal reference, e.g., *He wanted to fix the car but he did not manage it.* As to (a), the adverbial may modify either Bill's acting ('acting carefully', i.e., the first subevent) or the car's moving ('moving fast', i.e., the second subevent); the example in (b) is three-ways ambiguous, which, once again, can only be accounted for if we assume an internal structure involving subevents; in (c) the verb *run* is the hyponym of the verb *jog* because all properties of the agent's acting which can be inferred from *run*, can also be inferred from the agent's acting in the case of *jog*, i.e., the relation of hyponymy holds with respect to a subevent (the agent's acting) of the two verbal meanings. If a verb shows a transitive–intransitive alternation, then the intransitive event is a subevent of the transitive one. Finally, on the reading 'he tried but he did not succeed' the pronoun *it* in (e) refers to the state of 'being fixed'. Most of these tests have been used by generative semanticians as arguments for semantic decomposition. Presupposed events are established, as in example (2) above, by the usual tests for presuppositions. It is worth noting in this connection that presupposed subevents are quite often introduced by the context rather than being part of lexical representation. In (2), for example, we cannot assume that the presupposed event is a "flying event", as does Engelberg. His example

is *Sabine hat den Baseball gefangen* 'Sabine has caught the baseball', which implies *Der Baseball ist geflogen* 'The baseball was flying'. This is, of course, an implication of the sentence (i.e., the proposition underlying the sentence) but not of the lexical entry of *fangen* 'catch'. The latter can only imply that 'something was moving'. Similar things would hold for the lexical entry of the verb *reach*, where the presupposed event preceding the punctual event of 'reaching something' can only be specified lexically as an activity.

Verb types are distinguished on the basis of their compatibility with delimitative-durative adverbials (e.g., *in three hours*), durative adverbials (e.g., *for three hours*, German *drei Stunden lang*), time-point adverbials (e.g., *at three o'clock*, German *um drei Uhr*) and what Engelberg calls *Prospektivadverbial* 'prospective adverbial' (e.g., *for three hours*, German *für drei Stunden*). There is, however, yet another temporal adverbial, which has escaped the attention of scholars, including Engelberg, working on event structure, namely the *by*-adverbial as in (3a,b).

(3) (a) Bill survived his wife by eight years.
(b) John survived the war by twenty years.

Verbs such as *survive* presuppose two events, $\mathbf{e^1}$ and $\mathbf{e^2}$, the temporal interval denoted by the *by*-adverbial is counted from event $\mathbf{e^2}$ (the death of Bill's wife and the war, respectively), and $\mathbf{e^1}$ denotes a process (the process of life). $\mathbf{e^2}$ falls into the time interval denoted by $\mathbf{e^1}$ and divides this interval into two parts, life before $\mathbf{e^2}$ is a presupposition (Bill/John lived before $\mathbf{e^2}$) and life after $\mathbf{e^1}$ is what is asserted.

There are also verbs which do not admit any of the temporal adverbials modifying the internal temporal structure of the event. Consider, for example, the verbs *live/go/pass through* and the example in (4a,b).

(4) (a) John went through difficulties.
(b) Bill passed through a crisis.

The sentences (4a,b) cannot be modified by any temporal adverbial, both (4a) and (4b) seem to describe durative events but no subevents can be identified.

The above examples may suffice to show that the number of different verb types is anything but clear. This observation is further corroborated by the fact that although the dichotomy "punctual verbs with a subsequent state" (such as *explode*) and "punctual verbs without a subsequent state" (such as *wave*) covers all punctual verbs, the latter class of verbs falls at least into two clearly distinguishable subclasses: verbs such as *wave, tap, knock, win* allow durative adverbials and receive an iterative interpretation in the presence of such an adverbial. On the other hand, verbs such as *cry/call/shout out* do not permit such an interpretation:

(5) *Mary cried out for ten minutes.

This means that Engelberg's generalization to the effect that punctual verbs with no consequent state admit durative temporal modifiers (and an iterative meaning) is not borne out by the facts. Moreover the fact that there are two classes of punctual verbs with no consequent state, whose event structure contains a single punctual event only, raises the question of

how to represent the difference between the two classes in order to predict their behaviour. Engelberg's apparatus does not seem to allow for the representation of this difference.

Yet another problem arises with respect to the "prospective adverbial" *für-PP*, which typically specifies the length of a consequent state. However, the adverbial cannot occur with all verbs whose event structure contains a consequent state. Engelberg argues, quite correctly, that the condition formulated by Pustejovsky (1991) does not provide us with a sufficient condition. According to Pustejovsky the difference between (6a) and (6b) is that in (6a) the consequent state is reversible whereas in (6b) it is not.

(6) (a) He left the house for twenty minutes.
(b) He jogged for twenty minutes.

The two sentences, (6a) and (6b), are also meant to illustrate the two uses ("prospective" and durative) of the *for-PP* in English. Reversibility, however, cannot explain the oddity of (7a,b) with the "prospective" use of *for-PP* (81–4).

(7) (a) ??She cleaned the corridor for one hour.
(b) ??She lost the key for a couple of hours.

Though the consequent state in (7a,b) is reversible, the use of the "prospective adverbial" yields odd sentences. Engelberg suggests that the condition of reversibility be replaced by the condition of agent-control. The consequent states in (7a,b) are reversible but they are not under the control of the agent. Engelberg's condition—as he himself makes it clear—can only be used with agentive verbs. It remains still unclear under what condition the "prospective" adverbial can be used in the case of intransitive change of state verbs such as (8a,b) (82).

(8) (a) Der See frot für einen Monat zu.
'The see froze in for one month'
(b) Der Schatz verschwand für Jahrhunderte unter einem Trümmerhaufen.
'The treasure disappeared under the ruins for centuries'

But even in cases when an agent is involved it is not always clear what "agent control" exactly means. Consider, for example, (9) (Bea Gyuris, p.c.).

(9) The bloody fight with Bill made him disabled for five days.

where two agents are involved but neither of them controls the consequent state, nevertheless the use of the "prospective adverbial" is possible. All in all, then, the conditions under which this adverbial can be used remain unclear. Note that the use of all the other (non-deictic) temporal adverbials is quite predictable: durative adverbials can be used with atelic durative verbs, delimitative-durative adverbials with accomplishments and achievements (in the latter case they denote the duration of the presupposed preceding event), time-point adverbials with punctual events and with achievements (in the latter case they denote the end point of the activity), *by*-adverbials with verbs whose event structure contains two presupposed subevents. But, at least for the time being, no general rule can be formulated for the use of the "prospective adverbial".

The above remarks are meant to show that in spite of the advances we have made in the understanding of event structure, to which Engelberg has made an important contribution, there are still a number of unsolved problems, which future research has to clarify. The same holds true for argument structure and thematic roles, to which two major chapters are devoted in Engelberg's book, but which we could not review here.

In sum, Engelberg's book can be recommended to everybody interested in event structure and, more generally, in lexical semantics. The core chapters are clear and highly informative and shed light on many of the difficult theoretical issues of event structure.

Ferenc Kiefer

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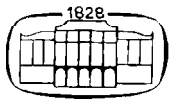

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For marking subsections decimal notation should be applied. Do not use more than four digits if possible.

Examples within the text should be marked in *italics*. Meanings are to be rendered between inverted commas (' '). If glosses are given morpheme by morpheme, the initial letter of the gloss should be placed exactly below that of the example. Grammatical morphemes can be abbreviated in small case letters connected to the stem or the other morphemes by a hyphen. No period should be applied in such abbreviation. For example:

(1) (a) A sólymaid elszálltak
the falcon-gen-pl-2sg away-flew-3pl
'Your falcons have flown away.'

Examples can be referred to in the text as (1a), (1a–d), etc.

One proof will be sent to the author. Please read it carefully and return it by air mail to the editor within one week.

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